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**Making the Shift:
Perceptions and Challenges of Modern Learning Practice**

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of the requirements for the degree
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Abstract

As we move into the third millennium, Modern Learning Environments (MLE) - also referred to as Innovative Learning Environments (ILE) – have been strongly backed by educators, both internationally and within New Zealand. These open and flexible spaces are claimed to effectively support a range of student-centred, strengths-based pedagogies - dubbed Modern Learning Practice (MLP) - where teachers and students can engage in more personalised, ubiquitous and collaborative teaching and learning. Set within an educational context of a holistic national curriculum, a new way of thinking about schooling in New Zealand is emerging, with a strong focus on life-long learning skills and competencies. Endorsed financially by policy-makers and philosophically by educational thought leaders, the physical landscape of education in New Zealand is rapidly shifting. However, for a change of such magnitude to take place in public education, there must be clarity of message when establishing links between the physical environment, corresponding practice and their collective impact on student learning. It is a potential disparity in definition and purpose around what, exactly, constitutes MLE and MLP that this study explores. Specifically, in a school making the shift, what are the stakeholders' perceptions of MLE and MLP? And what - if any - challenges are faced by a school's learning community in implementing MLE and MLP?

This mixed-method case study has created a snapshot of community perceptions at a recently renovated intermediate school undergoing a shift to MLP at a specific space and time. Through the use of surveys, interviews and focus groups, the perspectives of both the school and wider community have been gathered and thematically analysed. The findings suggest that, although perceptions of the purpose of MLE and MLP were largely synergistic across all participants, challenges in implementation were highlighted, which create on-going questions that could affect the success of the shift at this school and others. Implications for further research into the impact of MLE and MLP on student learning outcomes

are identified and recommendations are made at the practitioner, school and policy level – from the imperative for a vision that better aligns with student-centred pedagogies, to the need for more robust conversation about the competencies that are promoted in these contexts, and how to address the subsequent dichotomy with regards to current assessment standards.

This study will be of use to any school that is planning to utilise MLE and their associated practices in the future, as it discusses potential challenges as well as possible solutions surrounding implementation.

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Chapter One: Introduction

Modern Learning Environments (MLE) - also referred to as Innovative Learning Environments (ILE) - have been strongly endorsed by the Ministry of Education (MOE), academics, educational consultants, principals and teachers, both internationally and within New Zealand. As well as modernising outdated educational facilities with regards to acoustics, air quality, temperature and lighting, new learning spaces are being created around new paradigms (Harris, 2010). Promoted as fostering 21st century or “future-focused” learning, the MOE goes so far as to say, “All students deserve to be taught in these new innovative learning environments, and benefit from new teaching methods” (New Zealand Ministry of Education [NZ MOE], 2015c). It is also claimed that these open and flexible spaces effectively support a range of collaborative, strengths-based pedagogies - dubbed Modern Learning Practice (MLP) - through which teachers and students can engage in more student-centred, ubiquitous and collaborative teaching and learning.

The speed with which the digital world provides information for students is causing educators to re-think how knowledge is acquired and the role of teachers in the learning process. The emergence of the “knowledge economy,” as well as perceived changes in students’ attitudes and learning styles, their investment in virtual connections and their access to information are all attributes of a shifting educational landscape (Clydesdale, 2009; Gilbert, 2005; Oblinger, 2006). Phrases such as “Openness,” “Flexibility” and “Access to Resources” are increasingly used to reinforce the shift in thinking around how students in the 21st century learn, and how educators can respond to these changing needs (Osborne, 2013).

According to the New Zealand Curriculum, “Students who manage themselves are enterprising, resourceful, reliable, and resilient” (New Zealand Ministry of Education [NZ MOE], 2007). As part of the digital world that we now inhabit, students are seen as increasingly more self-

reliant in accessing digital information, making links with prior experiences, and synthesising their learning. With the wealth of information at their fingertips, they “choose when to pay attention – and what to attend to” (Lomas, 2006, p. 5.3). As a result, the competency of learner self-management is increasingly interwoven with the aims and intentions of MLE and MLP.

Rationale

Strong philosophical and financial backing of MLE has generated much discussion around how our notions of effective learning spaces have changed (Oblinger, 2006, p. 1.3). With the MOE contributing well over \$500 million towards school renovations and re-builds in the last five years (Walters, 2015), the emergence of MLE has been decidedly swift. Although many schools have embraced MLE and MLP, there continues to be some question around what, exactly, constitutes a Modern Learning Environment (Amos, 2013). The existing research appears to be dominated by philosophical positions without much empirical evidence around the impact of innovative learning environments and their associated practices on student outcomes (Blackmore, Bateman, Loughlin, O’Mara, & Aranda, 2011a; Byers, Imms & Hartnell-Young, 2014).

Compounding this uncertainty is the potential disparity in definition and purpose of MLE and MLP. There is significantly little research to support their implementation, particularly as the terms “Modern Learning Environments” and “Modern Learning Practice” are used almost solely in New Zealand. Added to this, growing public discourse surrounding the efficacy of MLE and MLP (Cooper, 2013; Gerritsen, 2015; O’Reilly, 2015; Shepherd-Wills, 2013; Silvertongue, 2015; Walters, 2015; Wilson, 2015) indicates a discrepancy in interpretation throughout the wider community. For a change of such magnitude to take place in public education, it is imperative that there is clarity of message when establishing links between the physical environment, corresponding practice and any resulting impact on student learning.

It is the possible discrepancy in definition and purpose that this study explores. Specifically, at a school making the transformational shift, what are the stakeholders' perceptions of MLE and MLP? And what - if any - challenges are faced by a school's learning community in implementing MLE and MLP? My experiences as a New Zealand educator have assisted me in formulating a hypothesis that the jargon surrounding the implementation of MLE and MLP lacks clarity and is inconsistent. My belief that this could lead to doubt, misunderstandings, cynicism or a lack of engagement was formulated through my anecdotal experiences as a practitioner at the site school.

Case Study

This case study took place at a large, urban intermediate school in New Zealand. With a static roll of approximately 530 year 7 and 8 students, the fully state-funded co-educational school has a long history of providing middle years education within the community. In 2012, as part of large-scale physical renovations and in compliance with the MOE's Designing Quality Learning Spaces standards (NZ MOE, 2015a), the school's 16 homeroom classrooms were rebuilt into Modern Learning Environments. Since 2014, the Board of Trustees and school leadership have made a strategic commitment to a pedagogical transformation that matches the new physical spaces.

A vision statement for effective teaching and learning was developed in 2011, and a Bring Your Own Device (BYOD) programme was implemented in 2013, with students bringing their own devices to school for the purpose of more personalised, student-constructed learning. Beginning in 2014, one of the four MLE - "pods" - were challenged to work in a more open, flexible and collaborative way, therefore utilising the spaces for the purpose that they were intended. The intention was that they would work together to become a supportive, reflective community in which 21st century learners could thrive. The school plan was then that the rest of the pods would embrace the collaborative practice and pedagogy in 2015. Throughout this time, the school also adopted their

own terminology for MLP. Instead of referring to the teaching and learning in MLE as Modern Learning Practice, they opted for FREDL – Flexible and Responsive Environments for Deep Learning.

As a long-standing staff member at the school, I have been immersed in much dialogue surrounding the shift over the last few years – particularly with teaching staff and school leadership. Through witnessing the leadership's change management and observing and taking part in professional discussions regarding the change to Modern Learning Practice, I have become interested in how the adoption of MLP or FREDL – open, flexible, collaborative and deep teaching and learning – is perceived by the intermediate school community and what challenges may emerge through their potentially differing perceptions.

Research Aim

The aim of this study was to explore perceptions surrounding Modern Learning Environments, Modern Learning Practice and the key competency Managing Self as a result of this growing trend in New Zealand. This research set out to identify how the adoption of MLE and MLP is perceived by members of the school community - including teachers, leaders, students, parents and Board of Trustees members - and what challenges might emerge through potentially differing perceptions. Although I began by focusing on how participants interpreted and defined MLE, MLP and the key competency, Managing Self, I was also interested in how their interpretations affected their engagement with the shift in thinking at the school. As the processes of teaching and learning are inherently intertwined with what it means to succeed at school, I wanted to determine how participants viewed achievement - including learners' ability to self-manage their learning - as a consequence of the shift.

The purpose of this study was to contribute to the current discourse surrounding Modern Learning Environments and Modern Learning Practice in the New Zealand context. It is particularly significant as it

identifies some of the challenges of the implementation of MLE and MLP, which may be of use to any school that is planning to utilise MLE and their associated practices in the future. As the MOE has made a commitment to prioritising the build and implementation of MLE, the findings of this research are both timely and relevant.

Research Questions

The overarching research question is:

- What are the challenges faced by a learning community in implementing Modern Learning Environments (MLE) and Modern Learning Practice (MLP)?

This question is answered by a focus on four subquestions:

- How is the definition of MLE and MLP perceived?
- How does the perception of MLE and MLP by teachers affect their engagement in collaborative pedagogy?
- Within the context of MLE and MLP, how is student agency or “Managing Self” perceived?
- Consequently, what is “achievement” in this context and how is it measured?

Data Collection

This mixed-method case study explores the perceptions of the wider school community – including parents, students, support staff, teachers, Board of Trustees and school leadership. A quantitative survey including open-ended questions provided an initial opportunity to gather community perceptions of the shift, and assisted in discovering how parents, students, teachers and school leaders define and interpret MLE, MLP and Managing Self. Subsequently, semi-structured interviews with four teachers and three school leaders, and four focus group interviews with students helped to create a snapshot of community perceptions at a specific space and time.

Thesis Organisation

Chapter One introduces the concepts of Modern Learning Environments and Modern Learning Practice. It presents the background context and rationale for this study, followed by the purpose of the research including the specific research aims and research questions. Finally, an outline of the methods of data collection method is provided.

Chapter Two explores and critically examines the literature review undertaken for this study. It identifies and charts the emergence of shifts in thinking around “How we learn,” “Where we learn,” and “What we learn” as we move into the third millennium. The literature review synthesises some of the major themes from seminal works surrounding the dominant elements of MLE and MLP. These include: the role of technology and knowledge, contemporary learning theories, the influence of thought leadership, 21st century classrooms and learning environments, learner self-management, teacher collaboration within these environments, and the role of students, teachers and the community. The literature comes from a range of sources from New Zealand and internationally.

Chapter Three describes and justifies the research methodology, research design and the data collection methods. The process for data analysis is clearly explained and the case study site and participant selection process is described. The chapter also addresses validity and reliability, triangulation and any ethical issues relevant to the research.

Chapter Four summarises the findings from the three methods of data collection: the initial survey, the interviews with teachers and senior leaders and the focus group interviews with students. Quantitative data is illustrated and described, and a contextualised description of the thematic analysis undertaken for qualitative data is provided, including examples of raw data where appropriate.

Chapter Five discusses the major findings from the study, outlined in 11 significant themes. Quantitative findings as well as open-ended answers

from the survey, interviews and focus groups are utilised to provide an analytic narrative, which assists in answering the research questions.

Chapter Six brings together the findings from Chapter Four and the discussion from Chapter Five to form five major conclusions in relation to the research questions. From these conclusions, implications for the educational community are discussed, recommendations are made and areas for further research are identified.

The following chapter reviews the literature related to the emergence of 21st century or future-focused learning and how that has impacted conceptualisations around how we learn, what we learn and where we learn. The literature has underpinned this research and informed the development of the research questions.

Chapter Two: Literature Review

It is generally accepted that education in the 21st century is undergoing rapid and radical change (Osborne, 2014). Throughout the latter part of the 20th century and the first two decades of the 21st century, both learning theories and educational contexts have evolved significantly. These philosophical shifts, affecting both the premise and organisation of schooling, reflect the underlying social contexts at work globally (Siemens, 2005). New and emerging technological advances, transformations in information acquisition and connectivity, and the birth of the “knowledge age” are influencing how learning is conceptualised (21st Century Learning Reference Group, 2014; Gilbert, 2005; Wagner, 2008). The quest to identify necessary skill sets has contributed to the on-going discussion around the role of preparing students for their future. 21st century education - also referred to as future-focused education or future-focused learning - and its implications for schools and institutions across the world has become a driver for educational innovation, promoting a vision for navigating an unknown future. As a result of failing schools, lack of engagement, bored students (Fullan & Scott, 2014; Prensky, 2005; Royal Society for the Encouragement of Arts, Manufactures and Commerce [RSA], 2010) and the emergence of technology that can instantly provide information that has historically been found in the domain of teachers and “the educated,” the perception of the role of schools has begun to shift, with implications for everything that schools once stood for – from the incorporation of digital and other not yet imagined technologies into the learning experience, to physical spaces, to roles and responsibilities of both teachers and students, to the pedagogical skill and responsivity of teachers.

The purpose of this review is to understand what historical as well as contemporary literature says about the transformation of education as a result of these changes and how what they say may apply to educators working to help prepare students for a very different world than currently exists. Born out of a sense that school leavers are under-prepared for the

world of work (Davidson, 2011; Fullan & Langworthy, 2014; Wagner, 2008) and that current educational systems are struggling to meet the challenging needs of today's learners (21st Century Learning Group, 2014; Prensky, 2005; RSA, 2010), the literature regarding how schools are conceptualised and the learning that should occur within them is vast. Shear, Gallagher and Patel (2011) maintain that there is a "critical gap" between the world students experience outside the classroom and the world within (p.11). Harris (2010) sees a transformation of the schooling experience as inevitable and questions not how schools should change, but when (p.12). A similar call for school reform took place in the 1960s and 1970s by individuals such as Carl Rogers (1969), A. S. Neill (1960) and Ivan Illich (1971). Although significant research and academic debate accompanied these ideas, the long-term impact on the curriculum was negligible. The "open classroom" or "open plan classroom" movement in both the United States and New Zealand during that period, which promoted active rather than passive student learning expression, through a variety of media and self-directed, learner-initiated learning, had, for the most part, been abandoned. Although some scholars suggest that "pedagogical fads come and go" as a result of ideological wars generated within the social, political and cultural context, it is important to determine whether these shifts are influencing the educational arena – and, therefore, teaching and learning (Cuban, 2004, p. 69).

This literature review seeks to synthesise some of the major themes emerging from current research and thought leadership around learning environments in the 21st century. As this case study is investigating stakeholder perceptions of MLE and MLP at the case study school, it is important that the theoretical context that has influenced this educational reform is illuminated and analysed. First, the review focuses on the current literature about knowledge acquisition and how learning theories have evolved in a new social context. In addition, it looks at the implications of these theories for education. Finally, it critically examines research into the relationship between learning spaces and pedagogy, with the intention of giving a broad overview of current thinking regarding

modern learning. Specifically, this literature review focuses on research that examines *how* learning might be acquired differently, *what* students should be learning, and *where* future-focused learning could take place.

How We Learn

Technology and knowledge.

Over the last twenty years, technology has had an enormous impact on learning. New and evolving technologies have created conditions that drive knowledge creation – complex problem solving, innovation, communication and collaboration (21st Century Learning Reference Group, 2014, p. 6). An increasing number of children in more developed countries grow up saturated in digital technology. In fact, youth are often seen as one of the primary drivers behind the acquisition and use of technological devices. Connecting online is now thoroughly embedded in the lives of the “digital native” generation (Organisation for Economic Co-operation and Development [OECD], 2012). The use of hand-held, mobile devices is pervasive for nearly all citizens - at home, work, in the public sphere and for students at school. Educators who promote technology integration into the curriculum argue that, if encouraged to, students will learn to effectively communicate, collaborate and solve problems (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012). Though the existence of a truly technically savvy generation is still debated (Kirschner & van Merriënboer, 2013), the procurement and ubiquity of personal devices cannot be questioned. Thornburg (2007) argues that technology allows us to “simplify the harvest of background information from which we synthesize and extend our own discoveries in our quest for knowledge” (p. 10). Siemens (2005), however, notes that the speed with which we are able to access this exponentially growing body of knowledge poses challenges – specifically around the inevitable and rapid diminishing half-life of what is actually conceived as knowledge. This ease of information acquisition, classification and obsolescence impacts previously held notions of *knowledge*.

The development of the “knowledge economy” in the “knowledge age” has reframed the concept of knowledge, seen now as something that “does or makes things happen” and the “primary source for all future economic growth” (Gilbert, 2005, p.25). In direct contradiction to an industrial age interpretation, this new knowledge is considered a process, not a product. No longer are teachers expected to provide information or knowledge and students expected to absorb it. Schneider and Stern (2010) stress that there is a general paradigm shift in education from a focus on the amount of knowledge toward the structure or quality of that knowledge. Rather than collecting information, they, and others, maintain the focus is shifting to preparing learners to do things with knowledge. It is believed that through utilising knowledge that learners will gain the dispositions required to contribute positively and economically to contemporary societies (Fullan & Langworthy, 2014; RSA, 2010).

Accepting that knowledge is increasingly indeterminate and boundless leads to a further supposition that the future is largely unknown. The rapid rate of technological progress and knowledge acquisition – both within schools and contemporary society – means that the ability to change and adapt is now a “forever proposition” (Fullan & Donnelly, 2013, cited in Osborne, 2014). Preparing students for a world that cannot yet be imagined is a major tenet of future-focused learning, and impacts learning theories and approaches, which strive to keep pace with the relentless need to equip future generations. Although this perception of the unknown may lead some schools into a state of “serial re-design” (Blackmore et al., 2011b), Fullan (2015) insists that educators have a critical role in co-creating the future by being a part of it (M. Fullan, personal communication, March 10).

Lastly, supported by the claim that the younger generations are the segment of the population with the highest intensity of connectedness (OECD, 2012), informal information acquisition – the opportunity to learn anywhere and anytime – has become another major thread of future-focused education. No longer are schools or libraries the sole contexts for

learning; a blend of formal and informal learning opportunities, brought about by the ubiquity of technology, provides a seamless environment that acknowledges that learning is not just situated in the classroom (Oblinger, 2006). Despite the fact that the digital native generation has been accused of being unable to leverage technology as efficiently as suspected - fluttering unconsciously through a fragile network of knowledge, unable to determine the true learning value of the information which they stumble across (Kirschener & van Merriënboer, 2013; OECD, 2015) - it is clear that learning *can* occur anywhere at anytime. In fact, if guided appropriately, it is claimed the ability to choose where and how to learn could provide a relevant and engaging connection to learners' personal interests and motivations, and may very well pave the way for students to become successful life-long learners (Fullan & Langworthy, 2014).

Learning theories.

Conceived during the industrial age, traditional learning theories such as behaviorism, cognitivism and constructivism fail to take into account the social and technological context of the 21st century. These learning theories are premised on the notion that knowledge is an attainable state – something that can be gained, through different processes such as experience, thinking or construction (de Corte, 2010; Siemens, 2005; Vygotsky, 1978). However, with the birth of the “knowledge age,” and ideas around the meaning of knowledge shifting, simultaneously, so have related learning theories. Their influence - as well as that of prominent “thought leaders” - on the literature surrounding future-focused learning is significant.

Social constructivism, the current dominant view of learning, is premised on the interaction between the learner and situations or environments which lead to individuals constructing their own knowledge (de Corte, 2010; Vygotsky, 1978); however, evolving learning theories and approaches are argued to more fully consider the complex nature of social interaction of the 21st century. Cultural Historical Activity Theory (CHAT),

based in Vygotskian constructivism, promotes the idea that “education is a simultaneous process of enculturation and transformation” (Wells & Claxton, 2002, p. 2). Through the use of artefacts, which extend and mediate human actions, communities of humans pass on values, skills and knowledge that are both situated and necessary in maintaining or altering the current cultural sphere. Specific to learning, it is this process of connection and collaboration with others in which culturally specific ways of thinking, reasoning and valuing both propagate and evolve (Wells & Claxton, 2002). Siemens’ (2005) theory of connectivism, which espouses meaning-making and forming connections as essential activities, is premised on the understanding that “decisions are based on rapidly altering foundations” (para. 21); the now limited life-span of previously accepted “knowledge” has a significant impact on the bedrock of how the world can be and is interpreted. Within the context - provided by technological advances - of instant access to a vast array of material, Siemens maintains that the ability to differentiate between important and irrelevant information is crucial. Therefore, capacity to learn what is needed for the future is more important than what is actually known at the moment (Siemens, 2005). Both CHAT and the theory of connectivism acknowledge that, not only are teaching and learning activities that can take place anywhere or anytime, but our evolving understanding of knowledge and the sheer magnitude of information available to learners means that relevant knowledge acquisition for the future is largely unknown and undeterminable.

Underpinned by both historic and contemporary theory, the practice of utilising student-centred pedagogies that promote personalised, deep, and, therefore, powerful learning is a teaching approach that has been “shown to have strong relationships with 21st Century learning outcomes” (Shear et al., 2011, p.13). The term “personalised learning” refers to educational experiences based on individual learner interests and experiences, compared to that of traditional age-based models where students are provided with a generic curriculum and universal delivery. Deemed an extension of “differentiation” and “individualisation,” both of

which involve modifying prescriptive learning experiences, personalised learning claims to respond to the diverse needs of individuals by tailoring both curriculum and learning activities (Bartle, 2015). This can be translated as learners: having individual interpretations of the goals of education (Leadbeater, 2006), feeling “in charge of their own learning” (Bolstad et al., 2012, p. 15), or simply being involved in individual learning plans or group projects (Hampson, Patton & Shanks, 2012). Williams (2013) maintains that the role of the teacher in a learner-centred environment cannot be overstated; although the locus of control in personalised learning should shift from teacher to student, it is the teacher’s role to create an empowering learning environment for all students. Similarly, in a response to the provocation that personalising learning is only either teacher-directed or student-directed, Hipkins (2014) states that the key role for teachers in personalising learning is “greater responsiveness to the specific challenges faced by different learners” (p. 6). A further tension that has been identified when dissecting the definition of personalised learning is how to balance the intentions of personalisation within the framework of a state-controlled curriculum (Campbell, Robinson, Neelands, Hewston & Mazzolli, 2007). As a result, there is some debate about the precise meaning of personalised learning, particularly as it is not perceived as a new approach (Bray & McClaskey, 2015; Hipkins, 2014; Schwartz, 2015; Ruano-Borbalan, 2006; Williams, 2013). Leadbeater (2006), however, argues that if students are more involved in making decisions about what they would like to learn and how they will go about learning it, they are more likely to become effective life-long learners.

There are multiple critiques of allowing students to choose what to learn and how to go about it. Campbell et al. (2007) suggest that personalisation may contribute to socio-economic inequity as certain students arrive at school more equipped to deal with the self-management required for true personalisation. Whereas Riley (2014) maintains that personalisation - moving the locus of control from the teacher to the learner - invites students to avoid new or unfamiliar tasks. Critically, Wood, Bruner and Ross (1976) determined that, in order for a learner to

successfully navigate a new learning experience, a teacher must control or “scaffold” elements of tasks that are immediately beyond the learner’s capability. There is a risk that this essential step in the development of competence could be lost for unassisted learners. However, the implications of providing individual scaffolding for a large group of learners – in an essentially 1:1 environment between learner and teacher – while attempting to maximise student learning could become overwhelming for teachers. Although personalisation in the knowledge age has also been equated with letting students loose on digital devices to move, unfettered, through a prescribed series of learning tasks at their own pace (CORE Education, 2011a; Schwartz, 2015) - and therefore remove some of the potential pressure from teachers - this also poses concerns as it counteracts the critical role of interaction as part of the learning experience. As a result, critics of personalisation encourage teaching to commonalities amongst students rather than the differences (Riley, 2014).

Nonetheless, several contemporary learning approaches incorporate personalisation as part of their methodology. Brown and Campione’s Fostering Communities of Learning approach (van den Broek, 2012), based on Vygotsky’s notion of a zone of proximal development, emphasises the role of the teacher in guiding a student-centred, discovery process towards forms of inquiry that students would not reach independently. This is scaffolded by an emphasis on individual responsibility coupled with communal sharing, a community of discourse and ritualised community expectations, all of which are engineered carefully by the teacher. Additionally, Holbrook and Kolodner’s Learning by Design approach, based on Case-based Reasoning Theory, with its focus on learning for flexible transfer to new contexts, supports students in constructing new experiences which they can then draw upon at a later time (van den Broek, 2012). Similarly, the Reggio Emilia approach, often affiliated with early childhood education, upholds eight distinct principles that are seen as central to learning: aesthetics, transparency, collaboration, relationships, bringing the outdoors in, reciprocity, flexibility and active learning. Within these principles, teachers are encouraged to

develop a “negotiated curriculum,” where students’ individual interests are built upon and deepened (Strong-Wilson & Ellis, 2007, p. 42).

The Universal Design for Learning (UDL) approach, developed by the Centre for Applied Special Technology, stresses the variability of how individuals learn, including their challenges, aptitudes and aspirations (Bray & McClaskey, 2015). This is premised upon teachers’ understanding of how learners can access, engage and express their learning and therefore helps to build a foundation for learners to take responsibility for their learning, including choices around how they acquire information, engage with the content, and express what they know. Much like other student-centred, personalised learning approaches, UDL promotes student ownership, claiming to increase motivation and engagement with the learning process (Bray & McClaskey, 2015).

Although not aligned with a singular approach, Fullan and Langworthy’s (2014) *New Pedagogies for Deep Learning* project defines deep learning as “creating and using new knowledge in the world” (p.7). Seen by the authors as a natural extension of the human condition, deep learning is defined as the learning, creating and doing dispositions developed in learners. Outcomes are measured in terms of: being able to build new knowledge, lead personalised learning, proactively persevere through challenges and develop capacity for life-long learning (Fullan & Langworthy, 2014). Harking back to the work of Dewey, this emerging focus on the depth, rather than the breadth of learning represents a popular shift in thinking towards skills that may support more creative, critical and responsive thinkers.

Although there has been some recognition of the discrepancy between teachers’ espoused beliefs regarding constructivist learning theories and their behaviours in the classroom (Ertmer et al., 2012), it is frequently maintained that students learn best, not as receptacles of content, but when they are involved in relevant and authentically meaningful individual learning experiences (CORE Education, 2011a; Fullan & Langworthy,

2014; Bray & McClaskey, 2015). As understanding of the meaning of knowledge has shifted, so has understanding about how students learn best. Recent developments in neuroscience have illuminated the intricacies of how humans learn. This represents a deviation from traditional misconceptions about the brain, which have pervaded the educational landscape over the past few decades, to a more biological understanding of what actually happens in the brain during learning (Howard-Jones, 2014). Collectively, these findings indicate: the brain is capable of adapting and changing throughout a learner's life, learning is most likely to occur when the brain is active rather than passive, learners use most areas of the brain, and pathways created from learning experiences must be used frequently to ensure their survival (Bray & McClaskey, 2015).

Although many of these theoretical ideas of learning are not new, they specifically feature principles and recommendations that may contribute to the successful negotiation of future-focused learning (van den Broek, 2012). In fact, philosophical positions such as these could possibly be used as justification for the emergence of MLE and MLP in New Zealand schools; much of this literature is what underpins the focus of this case study. Each of these approaches, and others, emphasise the importance of learner-centred and collaborative perspectives in engineering learning. Despite the fact that it may be difficult for some teachers to relinquish control from the traditional, hierarchical teacher-student power relationship, no longer are they expected to be the owners and agents of knowledge, but they are seen more as facilitators or even as activators – deliberate change agents - who are responsible for guiding students through their learning journeys (Hattie, 2009).

Thought leadership.

As well as the influences of learning theorists, the current educational landscape - including the discussions and debate surrounding the knowledge age - is dominated by the reflections of educational thought leaders. Defined as having “intellectual influence; innovative or pioneering

thinking” (“thought leadership,” 2015), thought leadership is also seen as a mechanism for authoritatively employing industry-associated jargon on relevant topics to answer questions targeted towards specific audiences (Brenner, 2014). Thought leadership comes in a range of forms with a range of motivations – individuals, organisations, research academics and opinion writers – with both corporate and not for profit interests. With the pervasiveness of digital technology and the swift consumption of information available, the opinions of educational thought leadership are regularly accessible to all audiences. What this means for academic research is unclear; however, what is clear is that much of the discourse surrounding how learning should look in the third millennium, where it should happen and what should be learned are being discussed in both the academic arena of rigorous research *and* across education on various platforms and in various forms, from: teachers and school leaders, consultants and entrepreneurs, futurists and disrupters, provocateurs and innovators.

Prince and Rogers (2012) maintain that a thought leader is “an individual or firm that significantly profits from being recognized as such” (n.p.). Similarly, Patel (2015) indicates that to effectively qualify and be influential as a true thought leader, there are a set critical behaviours, including being active on social media, saying “quotable stuff” (n.p.), thinking strategically and having influential friends. Although one function of thought leadership is the drive for innovation and the sharing of creative new ideas (Turnali, 2015), the danger of this emergence is that ill-founded or ill-defined ideas, with poor foundations in research, could become swept up in an echo chamber of ideas and grasped by many. Potentially even more ominous is the influence of thought leadership from public sector policy entrepreneurs – those who take advantage of policy discourse in order to advance their own ideological agenda (O’Neill, 2014). The relevance of thought leadership to this study is in both the organic, grassroots movement of digitally connected teachers eagerly adopting a set of practices dubbed “Modern Learning Practice,” and their reliance on those connections to gather ideas, research and define their personal

philosophies, as well as the frequency with which thought leadership is referenced by both the Ministry and educators across the world. The influence that thought leadership has – on schools, educators, policy-makers and anyone who is following the discourse – is potentially significant and should not be ignored when examining perceptions of current trends.

What We Learn

21st century skills.

Stemming from the premise that the future – encompassing social, economic or technological changes that cannot be predicted – is unknown, the shift in the meaning of knowledge and what is now known about learning has evolved into an understanding of a new set of essential skills. Although the commonly used statistic – that 65% of primary aged students could end up doing work that hasn't been invented yet (Davidson, 2011) – is questioned for its accuracy (Old, 2015), the rise of digital technologies and the reality of learning in the age of knowledge has assisted in transforming what it is that students are seen to need to learn. According to Bolstad et al. (2012), the focus now needs to be on equipping people to “do things with knowledge.” The Organisation for Economic Co-operation and Development (OECD) provided a working definition of 21st century skills and competencies in 2009, stating “those skills and competencies young people will be required to have in order to be effective workers and citizens in the knowledge society of the 21st Century” (Ananiadou & Claro, 2009, p. 8). Wagner (2008), on the other hand, refers to the disconnect between what even the best public schools in America are teaching and the skills that all students need to flourish as participants in today's knowledge economy as “the global achievement gap” (p. 8).

Although the exact set of 21st century skills are not universally agreed upon, they tend towards processes of learning and building knowledge, though many countries identify skills associated with technology as separate from a more generic skill set (Ananiadou & Claro, 2009). The New Zealand Curriculum (2007) includes a vision stating that all young

people should be “confident, connected, actively involved, lifelong learners” (p. 7), and identifies five key competencies which allow people to live, learn, work and contribute as active members of their communities: Thinking, Using Language, Symbols and Texts, Managing Self, Relating to Others, Participating and Contributing (p. 12). Other terminology is applied as well, including – but not exclusive to – knowledge-building, self-regulation, collaboration, communication, information and financial literacy, media literacy, problem-solving, researching, critical thinking, flexibility, adaptability, creativity, innovation, decision-making and digital citizenship (21st Century Learning Reference Group, 2014; Ananiadou & Claro, 2009; Chee, Divaharan, Tan & Mun, 2011; Hampson et al., 2012; Shear et al., 2011).

Crockett, Jukes and Churches (2011) develop six 21st Century Fluencies in their book, “Literacy is Not Enough,” including Solution, Information, Creativity, Media, Collaboration and Global Digital Citizen Fluencies. In addressing the global achievement gap, Wagner (2008) lists seven survival skills needed for the new world of work in the 21st century – Critical Thinking and Problem Solving, Collaboration across Networks and Leading by Influence, Agility and Adaptability, Initiative and Entrepreneurialism, Effective Oral and Written Communication, Accessing and Analyzing Information, and Curiosity and Imagination. Claxton (2002) challenges teachers to go beyond aspirational key competencies when introducing Building Learning Power, the ability to embrace uncertainty while stretching and exercising the brain to prepare it for future learning. This entails building resourcefulness, resilience, reflectiveness and reciprocity (Claxton, 2002). As part of the New Pedagogies for Deep Learning initiative, and based on the premise that “being educated means recognising, assessing, reinforcing and cultivating the ubiquitous and powerful nature of ethical entrepreneurialism” (p.4), Fullan and Langworthy (2014) list six key personal and interpersonal qualities and capabilities essential for this new learning: Character, Citizenship, Collaboration, Communication, Creativity and Critical Thinking.

Inherent in these skill lists is the subtle difference between skills and capabilities; although predominantly referred to as skills, 21st century competencies are generally referred to as broader terms which may, in fact, include attitudes the learner possesses, information about the world that the learner has acquired or personal competencies that have been developed outside of the educational setting (Ananiadou & Claro, 2009). De Corte (2010) suggests “adaptive competence - the ability to apply meaningfully learned knowledge and skills flexibly and creatively in different situations” (p.45), is a trait that is essential in transferring knowledge and skills to new situations, and therefore, the promotion of life-long learning. In the same vein, Fullan & Scott (2014) identify learning as the development of capabilities that allow a person to determine what is going on in the dynamic environment in front of them, and then identify and negotiate an appropriate response. The Assessment and Teaching of 21st Century Skills project (2009-2012) categorised the fluid group of skills and competencies into four major groups: Ways of thinking, Ways of Working, Tools for Working, and Skills for Living in the World. Regardless of their exact terminology, the focus on skills or competencies that highlight processes rather than outcome is consistent throughout the literature.

Although it is understood that future-focused learning is not a fixed prescription or a known formula (Bolstad et al., 2012), the Education and Science Committee’s Inquiry into learning environments and digital literacy (2012) makes it clear that there are still calls to clarify what a vision for 21st century learning in New Zealand might look like, and the subsequent implementation of work programmes that will fulfil that vision. There is also the tension that is created between this vision of learning and the currently accepted markers of success in education, as it is frequently claimed that national testing and standards do not adequately reflect the skills and competencies that many believe are needed for the demands of the future (Bisset, 2014; Bolstad et al. 2012; Shear et al., 2011, Fullan & Langworthy, 2014). As a result, it is necessary for the gap between what is happening now in classrooms and what theorists and thought leaders

are suggesting should happen to be more fully examined. This case study will go some way in establishing how stakeholder perceptions align with current educational thought trends and will further explore, in particular, the perceived roles of standardised testing, core learning areas such as numeracy and literacy, and national initiatives that promote standardisation and competition.

Core curriculum learning areas.

As well as the emergence of 21st century skills and competencies, there continues to be focus on core curriculum learning areas in national and school curricula documents. Seen in New Zealand as important for a broad, general education, the national curriculum (2007) specifies eight distinct learning areas intended to lay foundations for later specialisation: English, the arts, health and physical education, languages, mathematics, science, social sciences and technology. According to the MOE, the New Zealand Curriculum (2007) provides a framework for the direction of teaching and learning in schools, however individual schools have “considerable flexibility when determining the detail” (p. 37) of their school curriculum. This flexibility is somewhat offset by the requirement that schools provide teaching and learning of the eight learning areas in years 1-10 and the mandated use of National Standards – a set of clear expectations which describe what “students should know and be able to do” in reading, writing and mathematics throughout years 1-8 – for assessment (NZ MOE, 2015e).

Although the rise of process-based competencies is discernable throughout the literature, standardised mechanisms for measuring achievement (i.e. tests) are still used at national and policy levels across the world. From the Common Core Standards – guidelines that establish what every student should know in literacy and numeracy from kindergarten to 12th grade - adopted by 42 of 50 U.S. states (Common Core Standards Initiative, 2015), to the “new” National Curriculum in England, which determines to “eradicate illiteracy and innumeracy” and includes both the teaching of fractions to five year olds as well as the

compulsory exposure to at least two of Shakespeare's plays every year from age 11 to 14 (Department for Education, 2014, n.p.), there is little evidence of learning processes being valued by policy makers. Instead, an emphasis on competition, standardisation and core learning areas – a widespread, international phenomenon - coined as the Global Educational Reform Movement (GERM), values success in education as hinging on the measures of student achievement and growth (Sahlberg, 2015).

Within this context, teachers and school leaders are generally left to question where they should best place their efforts – either with policy-driven core curriculum initiatives, which are assessed and possibly rewarded or punished, or with the less clearly defined and often confusing set of 21st century skills? To expend energy teaching these competencies, when the definition is unspecified and the path to explicit teaching may be unclear, it is possible that teachers may be overly challenged and therefore revert back to what they know.

Where We Learn

21st century classrooms.

Despite the permeation of GERM throughout much of the educational landscape, the promotion of student-centered, collaborative, open-ended, engaging learning which connects students to real problems and the real world supports the utilisation of open, innovative and modern learning spaces (Osborne, 2013; Harris, 2010, Fullan & Scott, 2014). As a result, a physical transformation of schooling has begun – both overseas and within New Zealand. Government-funded initiatives to modernise school facilities have coincided with significant interest in building learning spaces that holistically provide positive and healthy environments for teaching and learning to take place. Initially designed to improve health through adequate access to daylight, appropriate acoustics, and essential temperatures, the push for up-to-date technological access has also helped to drive a revolution in the design standards of modern, open learning spaces.

As part of the New Zealand MOE's Designing Quality Learning Spaces standards of 2010, all capital improvements or rebuilds must prioritise the use of Modern Learning Environments after essential infrastructure and health and safety needs have been met (NZ MOE, 2015a). Similar initiatives are taking place internationally, as in Australia with the "Building the Education Revolution" initiative, promoted as a significant investment in the skills and competencies of Australia's youth, aimed to boost the productivity and prosperity of the nation for future generations (Australian Government, 2009). England's Building Schools for the Future program emphasises that school buildings should support a vision of high expectations and excellence, local collaboration with the community, and high-quality teaching and learning (Department for Education and Skills, 2003). In an Economic Policy Institute Briefing Paper, Filardo (2008) urges public school districts in the United States to improve the quality of school facilities so that future generations can make further progress in dealing with war, poverty, disease and the degradation of the environment.

School building transformations are not entirely new, however. In the 1970's, due to international influence, there was a wave of enthusiasm in New Zealand for open plan environments. Driven largely by passionate teachers willing to work cooperatively with colleagues, the open spaces were generally regarded as superior by teachers, particularly with respect to bright, creative or confident pupils (Research Committee on Open Plan Schools, 1977). Cuban (2004) suggests that even though practitioners found it hard to clearly define "open education," there were few educators at the time who were willing to publicly criticise the movement. Brogden Head (1983), however, maintains that open plan schools did, in fact, have a distinct rationale, located within the child-centred paradigm. This involved grouping of students regardless of age, engaging learners in a variety of activities simultaneously, and teachers collaborating in shared work areas. He admits, however, that the teaching and learning undertaken in many open plan schools was not as child-centred as intended, due to variables such as the desire to keep students "busy," the lack of rigorous learning associated with child-centred ideologies and the

unwillingness on the part of teachers to forego their territory (Brogden Head, 1983).

Although there were calls in New Zealand to continue with the building, maintenance of and preparation of teachers for using open plan spaces, this was an educational transformation that did not endure. Both the lack of well-defined discourse around the reform intentions and poor preparation for teachers in how to orchestrate teaching and learning effectively in the open spaces contributed to what Hattie (2015a) refers to as a confused narrative, leading education away from its most important task – learning. In light of current reforms to 21st century classrooms, the risk of historic recurrence is significant. Although the purpose-built spaces are modern, if the rationale is still in flux and the practical applications not clear, there is potential danger that what happened in the 1970s will occur again.

Learning Environments.

The term *learning environment* is most often used to refer to the social, psychological or conceptual environment rather than to the physical learning space (Cleveland, 2009, cited in Cleveland & Fisher, 2014b). Likewise, the Partnership for 21st Century Skills (2009) refers to 21st century learning environments as flexible systems that provide for the unique needs of each individual, while supporting the positive human relationships necessary for successful learning to take place. Although they refer to environments that are flexible in space, time, technology and people, there is specific mention of buildings or learning spaces that flex to accommodate those critical relationships. Blackmore et al. (2011b) maintain that the boundaries between the virtual and built environment have blurred, with the virtual environment continually extending and enhancing the reach and depth of students in their learning. “New generation learning spaces” are referred to in the literature as deviating from the tight, static, hierarchical containers of learning, with the purpose of promoting more student-centred and collaborative approaches to learning. This includes flexibility of furniture arrangement and use, as well

as leveraging digital technology in such a way to create a multi-modal learning space (Byers, Imms & Hartnell-Young, 2014).

Informed by international learning research, Dumont & Istance (2010) suggest that an *effective* learning environment is one that is learner-centred, structured, personalised, social and inclusive. An explicit focus on the students opens the possibility of “optimising the capabilities of both technology and learners” (Ertmer et al., 2012, p. 435). The OECD (2013) uses the term “Innovative Learning Environment” to refer to an ecosystem that encompasses both the activity and the outcomes of learning, yet diverges significantly from the traditional educational context in which it is situated. This loose term allows for blended approaches, which are not underpinned by one philosophical or educational position.

Within the New Zealand context, the Ministry of Education and associated consultants coined the phrase “Modern Learning Environments” to represent spaces that align better with contemporary understandings of how learning occurs, specifically offering more flexibility, openness and access to resources (Osborne, 2013). Due to “growing discomfort in New Zealand with the term MLE,” the Ministry has migrated to the term Innovative Learning Environments, which has greater international recognition (NZ MOE, 2015d). Defined as “the complete physical, social and pedagogical context... that is capable of evolving and adapting as educational practices evolve and change,” these spaces are identified as, but are not exclusive to, designated places of learning, including the interaction between them (NZ MOE, 2015d).

Several seminal works indicate that while open, modern spaces improve access to technology, they also invite innovative teaching practices which therefore might have an impact on the outcomes for students (Wall, 2014a; Tanner, 2008; Imms & Byers, 2015, Osborne, 2013; Harris, 2010). There is a body of research that promotes open learning spaces or innovative learning environments as “fit for purpose,” in that the emphasis on design, configuration and utilisation of space should match the

attributes of specific pedagogies. The range of pedagogies that might be supported in a learner-centered environment could be, but are not exclusive to: delivering, applying, creating, communicating and decision-making (Osborne, 2013). Fisher's (2005) popular work, "Linking Pedagogy and Space," maintains that specific pedagogical activities require certain spatial qualities to be effective (p. 2.01). Based on that premise, he devises possible learning settings for various modes and group sizes, concluding that multi-modal learning environments provide access to a variety of settings to suit a diversity of pedagogical approaches, learning needs and tasks. These settings range from individual setups to group and activity-rich configurations, as well as informal learning spaces (Fisher, 2005). Thornburg (2007) identifies four learning spaces where learning has always taken place, possibly even pre-dating civilisation: the campfire, the watering-hole, the cave and Life. This philosophical framework reinforces the learning theories that underpin student-centred pedagogies, involving student choice and agency, while also supports the use of multi-modal learning environments for deep knowledge acquisition to take place (Thornburg, 2007).

The idea of *flexibility* is promoted as one of the most important aspects of innovative learning environments. While Cornell (2002) says the flexibility of furniture and fittings within learning environments allows teachers to fluidly support the delivery of different teaching and learning programmes, Higgins, Hall, Wall, Woolner and McCaughey (2005) maintain it also provides sustainable adaptability for new cohorts of learners, changes to curriculum and other social and cultural challenges. Identified as one of six significant environmental predictors of achievement, the ability to flexibly reconfigure the classroom to support different learning activities is seen as essential to effective learning environments (Barrett, Zhang, Moffat & Kobbancy, 2013, cited in Wall, 2014b). Tanner (2008) also suggests that students' ability to move freely in learning spaces, choosing where they learn, may support improved student outcomes.

While the term flexibility suggests that learning environments might provide well for the needs of the learners, it does not address how teachers orchestrate different learning activities within these environments. The Reggio Emilia approach refers to the learning environment as the third teacher, emphasising the use of rich contexts to allow students to discover their own capital through interactions with other students, teachers and the space itself (Strong-Wilson & Ellis, 2007). Similarly, the Montessori approach stresses the importance of learners' interaction with and manipulation of the environment in constructing their own learning (Bray & McClaskey, 2015). The ability of teachers to understand and effectively use physical environments to support specific pedagogies is identified as "teacher environmental competence" (Lackney, 2008). It has been noted that learning about the influence of the environment comes primarily from direct experience (Wall, 2014b), requiring particular and skilful reflection by the teacher. As a result, Lackney (2008) calls for more study of environmental competence in teachers already inhabiting learner-centred, fit for purpose, 21st century learning environments. Cleveland (2011) further suggests that the maximal use of innovative spaces is limited by teacher environmental competence. He refers to the use of "reflexive spaces," suggesting the need of users to be able to "fine tune learning settings to suit their pedagogical needs" (p.3). Simply addressing environmental competence, as Lackney and Cleveland suggest, however, may not be sufficient in truly impacting student learning. In order for teachers to cause learning in such radically different environments, explicit training in environmental competence may be required.

As well as benefitting the learner, these open spaces are also promoted as providing transparency and "de-privatisation" of practice, catering to the strengths of different teachers. In an open, collaborative space, students may have access to a range of teacher strengths and class groupings "can be reconfigured easily to meet learner needs" (Osborne, 2013, p. 3). Additionally, it is claimed that visibility and access to the teaching of others supports the on-going development of effective teaching practice, for both

beginning and experienced teachers. Elmore (2003) recommends these environments for the purpose of “creating internal stability and professional, peer accountability” (as cited in Blackmore et al., 2011b, p. 3). While this visibility has been described by practitioners as “demanding” (Bisset, 2014), collaborative communities of practice are seen as essential in building human, social and therefore, the “professional capital” of the teachers in a school (Hargreaves & Fullan, 2012). The New Zealand MOE states that collaboration should occur between teachers sharing spaces in “both the planning and delivery stages,” allowing students to “benefit from the strengths of both teachers,” as well as providing social and professional development opportunities (Wall, 2014b, p.4).

There is no direct evidence of modern – or innovative – learning spaces improving student achievement (Blackmore et al., 2011a; Cleveland & Fisher, 2014a; Tanner, 2008; Wall, 2014b; Wilson, 2015). Within the future-focused learning discourse, this brings into question what is measured when referring to achievement, and whether or not a null gain in terms of traditional markers of achievement can be offset by improving the other skills necessary for students to confidently face life in the future. Nonetheless, there is evidence that learning spaces can have an adverse effect on student outcomes when student comfort or wellbeing is affected at a fundamental level, for example by over-crowding or noise (Shepherd-Wills, 2013; Tanner, 2008; Wall, 2014a). It has been suggested that interior windows, which provide flexibility and transparency for teaching and learning needs may, in fact, provide distraction for students and impact their concentration (Wall, 2014a). In a small-scale teaching sabbatical report by a New Zealand teacher, one of the greatest challenges cited by students in describing their learning experiences in a modern learning space was distraction. Other challenges identified by teachers and students were: noise, lack of professional development and the lack of rapport between teachers and all students when multiple teachers work collaboratively with larger groups (Shepherd-Wills, 2013).

The most significant impact across the literature appears to be increased engagement of students with their learning. Reports from teachers and students alike indicate that open spaces allow for greater flexibility, range of movement, access to technology and improvement in behaviour (Blackmore et al, 2011b; Byers, Imms & Hartnell-Young, 2014; Shepherd-Wills, 2013; Tanner, 2008). Of course, adequately measuring “engagement” is a conundrum; who is to determine to what level a student is engaged, and how is that reliably assessed? The significance of learner engagement as an outcome should be taken as subjectively as the measures used to assess it. Though they maintain that students *appearing* to be engaged is not sufficient, Blackmore et al. (2011b) claim to have found a “recurring pattern of significant engagement with collaborative and flexible teaching’ in 21st Century learning environments” (p. 48). Proponents of increased personalisation premise that increased learner agency might improve student engagement as well (Hampson et al., 2012).

Although the literature is rich with philosophical and theoretical positions that support the design, build and flexible use of innovative learning spaces, there are many calls for more robust evaluation, indicating what is successful or not, in order to make the most of the spaces (Cleveland & Fisher, 2014b; Tanner, 2008; Wall, 2014a). Building design has been linked to teacher motivation and student achievement; however, this correlation does not indicate causation. While building deficiencies have been found to impair the quality of teaching and learning (Filardo, 2008; Higgins et al. 2005), in “Making a Case for Space,” Byers, Imms and Hartnell-Young (2014) claim a positive link between innovative learning spaces and student outcomes. However, they concede that this finding is difficult to generalise. Furthermore, there is some evidence that the dynamic and collaborative nature of open learning spaces allow teachers to adopt pedagogical approaches that support students to employ higher-order problem-solving skills (Byers, Imms & Hartnell-Young, 2014), though these studies are critically leveraged on other factors such as teacher professional development and workplace culture.

It is strongly suggested that programmes that are suited to the space have more impact on student outcomes than the space itself (Wall, 2014b).

This is supported by the finding that open spaces with 1:1 access to technology improved students' opinions of the teaching and their levels of engagement (Byers & Imms, 2015). Other findings have suggested that learning programmes that encourage integration, teacher-student communication, respect for the learner, and innovation with time and space organisation are most likely to engage both students and teachers and, therefore, to positively impact learning (Hunley & Schaller, 2009). Similarly, a small but limited study of studio space in tertiary education indicates that the use of the space itself can encourage teachers to adopt more active or responsive pedagogical approaches, impacting on both teacher and student engagement (Taylor, 2009). However, approaches to the evaluation of the pedagogical effectiveness of learning environments "are in their infancy" and there are calls for further development, including seeking the opinions of student users (Cleveland & Fisher, 2014b, p.24).

Within the context of New Zealand, the phrase "Modern Learning Practice" (MLP) – also referred to as "Modern Learning Pedagogies" (Wilson, 2015) and more recently "Innovative Learning Practice" (Withers, 2015) has materialised and is frequently used by practitioners to describe the flexible approaches to learning which can be utilised by teachers and students in MLE. Although the term is not used universally and is cause for significant debate between educators as to what practices actually comprise MLP (O'Reilly, 2015), the term does not appear anywhere in the research literature at this stage. The absence of a definition for MLP contributed significantly to the research questions which frame this study. In order to conduct a rigorous literature review, however, it was necessary to incorporate the elements or ingredients promoted to comprise MLP into the synthesis.

Role of students.

As well as the need for flexible spaces, there is an emerging belief that both students and teachers need to move from an industrial-age interpretation of schooling to a new conceptualisation of learning (Harris, 2010; Oblinger, 2006), where students are less passive, more active, and teachers are less directive and more facilitative (Cornell, 2002).

Interpreting the nature of today's learners as favouring more active, participatory, experiential learning (Oblinger, 2006), and the belief that they have "the world at their fingertips" has altered previously held beliefs about scholastic authority (Clydesdale, 2009, n.p.). This is supported by Hunley and Schaller's (2009) findings that students react positively to environments where they are treated with respect, learning is taken seriously and collaboration with staff and other students is possible. The authors found that students who have had experience in innovative learning environments and then transition back to a traditional setting tend to perceive the traditional setting in a more negative light. Critically, with digital opportunities readily available on line, there are fears that many students currently perceive the industrial age interface of traditional schooling as irrelevant (Fullan & Langworthy, 2014).

As learners are increasingly able to access, participate in and contribute to their own learning, there are claims that the notion of "student agency," where students have the power and capacity to make their own choices about their learning, has become a "default expectation" (21st Century Learning Reference Group, 2014, p.36). Some literature suggests that having agency as a learner – including student-centred curriculum design and control over their learning needs – is one of the most effective ways to promote lifelong learning (21st Century Learning Reference Group, 2014; Fullan & Scott, 2014; Hampson et al., 2012). Hirano's (1993) findings regarding maths achievement indicate that learning outcomes improve when students are able to choose their own work space within the learning environment (as cited in Wall, 2014b). Ertmer et al. (2012) also discovered that when students are handed the responsibility for their own learning, using technology as a motivating tool, they exceed teacher

expectations in terms of learning outcomes related to content standards. The question that emerges is whether or not an improvement in core curricular areas is adequate when preparing students for their unknown futures. According to Fullan & Langworthy (2014), mastery of the learning process, making learning visible, unleashing the power of peer teaching and personalising the learning so that it is directly linked to each learner's interests and aspirations are all essential aspects of the range of new pedagogies that will create the space for deep learning to occur.

However, this claim is refuted by Hattie (2009), whose meta-analysis of variables relating to achievement indicates a notable lack of impact from individualised instruction. According to Riley (2014), the pursuit of personalised learning in the classroom is counteractive to evidence-based scientific claims about cognition. Left to their own devices, students will, firstly, avoid learning that they perceive as difficult, then misregulate through being misguided or counterproductive, and ultimately, not achieve (Kirschner & van Merriënboer, 2013). Claiming that individualised teaching programmes are usually implemented in a way that does not develop surface understanding first, Hattie (2015a) calls for further investment in teacher preparation to use alternative ways of teaching in open learning spaces. Notably, as part of the emerging modern learning phenomenon in New Zealand, an intermediate aged student, Silvertongue (2015), describes her experience in an open learning environment as annoying. To her, the environment "didn't look very serious," the teacher "tries to move around the groups but she has to spend time with the slower learners," and as a result, Silvertongue indicates she is "really looking forward to going to high school where they don't have MLEs" (p. 19). These oppositional claims bring to light the possible discrepancies between the assertions about and reality of students' experiences in 21st century education.

Managing self.

The prevalence of elements such as personalisation, self-directed learning and student agency throughout the literature indicate an emphasis on

learner-centred practices in future-focused learning. One of the five key competencies in the New Zealand Curriculum, “Managing Self,” is associated with self-motivation, and anticipates that students who manage themselves are able to set high standards, establish goals, make plans and manage projects (NZ MOE, 2007). Therefore, the role of this key competency in the practices promoted in MLE is both relevant and significant. The concept of self-management or self-monitoring is identified as one of three important aspects entailed in self-directed learning. The other two are: ownership of learning and extension of learning, the ability to self-teach in informal, non-institutional, everyday settings. Self-management in this context is seen as a management of external tasks and resources, scaffolded best by a teaching-learning transaction that is similar to that of individualised instruction, with the teacher and learner negotiating the learning goals, the methods of learning, resources and assessment (Chee et al., 2011). Self-monitoring, on the other hand, is seen as involving more internal processes, such as thinking, reflection and improving (Chee et al., 2011), where “managing self” is associated with a more strategic approach to seeing oneself as a capable learner (NZ MOE, 2007).

Findings from a study of three secondary schools in New Zealand, each of which self-describe as “modern learning environments” and which identify personalised learning as the most significant component of their learning environments, indicate that only one of the three schools reported an overall ability of their students to self-direct in their learning (Bisset, 2014). Student voice was not included in Bisset’s study. Yet this finding correlates with Kirschner and van Merriënboer’s (2013) claims that “students are not really the best managers of their own learning...with respect to...choosing the best way to study and learn” (p. 178).

Role of teachers.

Practitioners’ choice of teaching method is widely recognised as having a significant effect on student achievement (Hattie, 2009, p. 126). As with any radical change in the nature of education, the transformative shift to

future-focused learning relies heavily on the behaviours of teachers. It is hoped that innovative physical spaces, especially linked to the integration of ubiquitous virtual spaces, will drive a significant pedagogical shift and therefore improve student outcomes (Harris, 2010). In order to most effectively use new open learning spaces, it is claimed that the space itself must be considered as an integral part of the planning and delivery of learning programmes (Wall, 2014b), where teachers reflexively analyse the environment, relative to both the students and the curriculum.

With much of the future-focused literature concentrating on student-centered, rather than teacher-driven practices, Bolstad et al. (2012) calls for the roles and responsibilities of teachers and learners to shift towards a “knowledge-building” learning environment (p. 5). Teachers helping students to generate understanding through their own efforts requires certain skills: a good understanding of learning processes, the ability to observe students’ learning while accurately identifying their moment to moment thinking, flexibility in using student questions to develop links to the curriculum, and the ability to shift their role from one who transmits knowledge to a guide who supports individual questioning and independent acquisition of resources to pursue answers (van den Broek, 2012).

According to Shear et al. (2011), education systems are “often described as notoriously slow to innovate” (p.11). There are indications that, despite testimonies of innovation provided anecdotally by practitioners, stakeholders regularly require convincing of the need for innovation (Blackmore et al., 2011b). If teachers are not well-prepared and supported to transition in terms of pedagogy, they will tend to default to traditional practices (Wall, 2014a). Ertmer et al. (2012) suggest that this potentially stems from teacher perceptions around the difficulties of meeting individual needs in large classes, juggling multiple objectives and responding to external expectations.

Teacher conservatism is identified as a conservatism of practice that “tends to work against even reflexive practitioners making changes to their physical space and teaching” (Woolner, McCarter, Wall & Higgins, 2012, p. 46). For example, there is potential for individual teachers to espouse pedagogical beliefs while actually behaving in very different ways. This conservatism is seen as more apparent if changes or shifts in practice are imposed “top-down” (Woolner et al., 2012, p. 46). A study of the relationship between teacher beliefs and technology integration practices concludes that, in order for some teachers to attempt new student-centred pedagogies, many require evidence that these practices result in meaningful learning outcomes, generally associated with standardised achievement (Ertmer et al., 2012). Hunley and Schaller (2009) maintain that even when teaching staff have a broad view of pedagogical opportunities, they typically fail to follow through with innovative practices, and therefore require a deeper understanding of the connection between space and innovative pedagogy. In making a case for pedagogical transformation, it is suggested that although many practitioners must overcome resistance to adopting new pedagogies, when true discourse and collaboration do actually emerge between students and teachers, a sense of shared ownership occurs and therefore, the learning situation becomes more democratic. The result, it is hoped, is that students are able to pursue learning activities with greater self-direction (Cleveland, 2011).

The literature strongly calls for an increase in teacher professional development to realise the potential of innovative learning environments and the adoption of innovative pedagogies for the purpose of developing 21st century skills and competencies (Blackmore et al., 2011a; de Corte, 2010; Harris, 2010; Wall, 2014a). With a lack of appropriate professional development opportunities and without a genuine consultation with teachers in the design process, it has been suggested that externally imposed changes to physical spaces may have little effect on the quality of the experience within (Higgins, et al., 2005). Similarly, Woolner et al. (2012) suggest that “an appropriate participatory process may enable

educators to feel differently about space” and therefore, their practice may change (p. 57). However, the sustainability of the participatory process could be impaired as new cohorts of students and teachers migrate through the school over the years. Issues of communication must continually be addressed, as well as the evolution of appropriate systems and processes that adapt to meet the new learning environments (Higgins, et al., 2005).

Teacher collaboration.

As discussed previously, future-focused learning spaces are promoted as providing opportunity for greater teacher collaboration, a practice that is advocated to improve student outcomes (Alton-Lee, Hunter, Sinnema & Pulegatoa-Diggins, 2012; DuFour, 2004; Hattie, 2015b; Ronfeldt, Owens Farmer, McQueen & Grissom, 2015). Also referred to as “professional learning communities” throughout the literature, teacher collaboration is upheld as representing a shift from a focus on teaching to a focus on learning (DuFour, 2004). Findings from Alton-Lee et al. (2012) suggest that collaborative, professional learning processes between teachers support significant changes in pedagogy and, therefore, dramatic benefits to the outcomes of learners. According to Ronfeldt et al. (2012), however, all collaboration between practitioners is not approached similarly and therefore, does not have equal impact, with the majority of variation in collaboration occurring within, rather than between, schools. Their findings suggest that the most successful collaboration to improve student achievement is that which focuses on instructional responses to student data (Ronfeldt et al., 2012). In support of this concentrated approach to learning, Hattie (2015b) states:

The focus of collaboration needs to be on the evidence of impact, common understandings of what impact means, the evidence and ways to know about the magnitude of this impact and how the impact is shared across many groups of students (p.24).

Hargreaves and Fullan (2012) refer to a “continuum of collaboration” (p. 112), with teachers sharing anecdotes and exchanging ideas at one end, and participating in joint work or co-teaching at the other end. In relation to MLE, co-teaching is upheld as the sort of teacher collaboration that is

most applicable, where two or more teachers plan, teach, assess and interact together in one space (Bush, Hygate & O'Reilly, 2014). Villa, Thousand and Nevin (2013) define co-teaching as “two or more people sharing responsibility for teaching all of the students assigned to a classroom” (p. 4), delineating it into four predominant approaches – supportive co-teaching, parallel co-teaching, complementary co-teaching and team co-teaching. Seen as an appropriate way to collectively analyse pedagogical approaches and support on-going improvement of teacher practice (OECD, 2013), co-teaching is claimed to be “innovative,” and supports opportunities for novel instruction to be crafted (Villa, Thousand & Nevin, 2013).

According to DuFour (2004), collaborative practices compel teachers to de-privatise behaviours which have been typically private. Through professional challenges from peers, collaboration is also maintained to increase teacher agency (Bush et al., 2014), though it is stressed that learning from errors has to occur in a safe, trusting environment (Alton-Lee et al., 2012; Hattie, 2015b). In a study into a collaborative teaching and learning structure in a New Zealand intermediate school, Martin and Williams (2012) found that collaboration was successful when teachers worked towards their individual strengths, a practice that supported the teachers learning from each other. The teachers in the study also indicated that greater collaboration enabled flexible student groupings, leading to better outcomes (Martin & Williams, 2012).

Despite the evidence that suggests working collaboratively represents best practice, it is clear that many teachers are only willing to engage in a limited amount of collaboration, giving reasons why it is impossible for them to work together (DuFour, 2004, Martin & Williams, 2012). Hattie (2015b) indicates that “sharing resources, sharing anecdotes and war stories and sharing beliefs about why or why not something might not work in ‘my’ context” (p. 23) is not sufficient for maximising impact on student outcomes. Hargreaves and Fullan (2012) also report that if collaboration is limited to this end of the continuum, it will simply reproduce the status

quo rather than challenging it. While Martin and Williams (2012) stress that a compatible, like-minded team is essential for collaborative success, they are also clear in stating that teacher collaboration works best when supported by the wider school community.

There appears to be no reference in the future-focused learning literature to the importance of teacher collaboration in promoting 21st century skills or competencies. With the emergence of open learning spaces such as MLE, however, the emphasis on de-privatisation of practice and professional communities of learning is on the increase. Rather than beginning slowly and providing teachers with time, space and multiple ways to develop a committed partnership (Alton-Lee et al., 2012; Villa et al., 2013), installing them in large, open, flexible spaces may not, in fact, have the desired effect of improving collaboration and therefore impacting student outcomes. It is already recognised that collaboration through co-teaching can support higher teacher-to-student ratios, therefore benefitting a greater number of students (Villa et al., 2013). However, when a Ministry official admits that “if we are not growing capacity for powerful cooperative learning approaches that accelerate achievement,” then “the inevitable call from the profession will be for small class sizes” (Riley, 2014), doubts are raised around the intent of the implementation of MLE and MLP.

When collaboration is mandated top-down, the literature suggests that it is less likely to be successful. Dubbed “contrived collaboration” (Hargreaves & Fullan, 2012), this approach is not deemed to be conducive to establishing an open, safe and supportive learning community (Alton-Lee et al., 2012). As Ronfeldt et al.’s (2015) findings indicate that better quality collaboration produces better achievement gains, consideration must be given to the possible effects on achievement when teacher collaboration is less than optimal. Within this context of expectation of teacher collaboration, this study seeks to further explore teachers’ engagement with collaborative practices as part of the shift to MLE and MLP at the case study school.

Role of community.

In order for complex and profound change to occur, teacher learning on its own will not be sufficient. The call to involve the community by developing stronger links between the learning environments in schools and the wider community is a common theme throughout the literature (Bisset, 2014; Cooper, 2013; Dumont & Istance, 2010). Without a wider public awareness of the paradigmatic shift surrounding the type of learning children now need, Bolstad et al. (2012) maintain that teachers and schools “will not have the traction to shift” (p.5). However, community support and potentially negative perceptions were identified as one of the biggest challenges in transitioning and maintaining a focus on MLE (Bissett, 2014; Cooper, 2013; Wilson, 2015).

The current transformation in New Zealand has already prompted negative perceptions and misunderstandings of MLE (Carroll, 2015; Cooper, 2013; Gerritsen, 2015; NZ MOE, 2015d; Silvertongue, 2015; Walters, 2015; Wilson, 2015). Whether this growing discomfort is perception or reality has yet to be determined; however there is anecdotal evidence of principals and teachers feeling confronted by “uninformed gossip” or media misinformation (Carroll, 2015; Cooper, 2013). In addition, there are messages of secondary schools rejecting the pressure to change the way teaching and learning happens in their institutions, with principals publically conjecturing the main rationale for the transformation to MLE is that they are cheaper to build (Walters, 2015). When a private school advertises their school to the community by maintaining “our classrooms have walls; our pupils have desks” (The Cathedral Grammar School, 2015), the question of stakeholder perception has even more relevance. Bolstered by reports that open-plan offices negatively affect workers’ attention spans, productivity, creative thinking, and satisfaction (Konnikova, 2014), there is certainly space for the wider community – including the parents, board members, former and current students, as well as teaching staff – to engage in robust discussion around how and where we are going to educate the children of our future.

Summary

This study, situated in a particular time and context, is both timely and relevant. As the educational field moves into the third millennium and the discourse around knowledge, learning pedagogies and achievement begins to move away from traditional interpretations of schooling, there is significant space to delve into the perceptions of teachers, students, school leaders and parents around what future-focused learning does and should represent. Although there is a body of literature analysing the impact open learning spaces have on student outcomes, the discussion should be broader than that, and incorporate not just critical elements of where learning should take place, but how this is best accomplished in the technological and social context of the 21st century.

In addition, the current ambiguity of terminology utilised within the New Zealand educational context provides significant space to explore how stakeholders perceive educational reform as it emerges. Identified gaps in the research surrounding perspectives of modern learning, impacts of student-centred pedagogies on the development of future-focused skills and the perspectives of the wider community in interpreting and understanding the application of new educational reforms provides space for exploration. This study intends to do just that.

In the context of ambiguity of language, particularly as the literature does not provide a definitive clarification of some of the emerging vocabulary, I have chosen to use “Modern Learning Environments” (MLE) to describe the physical spaces built to house learning at the case study school. Similarly, I will use “Modern Learning Practice” (MLP) to refer to the behaviours and practices utilised within the spaces, by both teachers and students. Although these terms are not used universally in the research, by the educational community in New Zealand at the time of the study, or by all participants at the case study school, and are likely to change, again, as interpretations of future-focused learning evolve, my choice of terminology reflects the vernacular commonly used in New Zealand at the inception of this study.

Chapter Three: Methodology

This chapter begins with a description of the research methodology that framed this research. Stemming from a subjectivist epistemological position of a known reality, it presents a rationale for situating the study within the realist paradigm, therefore justifying a mixed methods approach to the research design and data collection. It includes a description of the participating school and the participant sample.

A subsequent section details the methods of data collection and data analysis utilised. This includes the following subsections: (a) Initial survey, (b) Semi-structured interviews and (c) Focus group interviews. The validity and reliability of this research are addressed in another section, as well as means of triangulation in data collection and analysis. Finally, ethical considerations are discussed.

Research Methodology

“A paradigm refers to the researcher’s assumptions of reality (ontology), knowledge (epistemology) and ways of gathering knowledge of reality (methodology)” (Markula & Silk, 2011, p. 53). The beliefs that undergird this research are such that, although the existence of Modern Learning Environments as built spaces is becoming a universally “known” reality, knowledge of and about them is primarily subjective. In the context of the emerging yet widespread shift towards the use of open learning spaces, it is evident that what constitutes MLE and their associated practices will have different levels of interpretation for users. As each member of the community will have their own perception of MLE - potentially viewing the same objective reality differently - the intention of this exploratory research is to better understand each stakeholder’s experience to create a more holistic picture of the phenomenon (Cohen, Manion & Morrison, 2007). Therefore, this study is situated between the positivist and constructivist paradigms, utilising a mixed methods approach to explore multiple individual perceptions of a single examined reality (Markula & Silk, 2011).

Realism as a philosophical paradigm maintains that there are differences between actual reality and people's perceptions of reality (Krauss, 2005). As an educator and researcher, I believe that MLE have been built for real educative purposes, with an impact on the educational landscape. However, based on lived, anecdotal observations from within the educational community, it is also my belief that the messages surrounding the transformation of physical, virtual and pedagogic spaces potentially lack clarity and tangibility, which could lead to a disparity of perceptions amongst users. This, in turn, could lead to lack of engagement or efficacy in terms of their educative value. In an effort to identify potential challenges of the implementation of MLE and MLP and suggest possible improvements that may lead to more widespread and unilateral support for future educational reform, my role in this study is to explore, understand and interpret the meanings behind the educational community's subjective perceptions (Markula & Silk, 2011). Approaching the research from a realist stance has assisted me in negotiating the inherent complexities of what actually constitutes "modern learning practice," "collaboration," "engagement," "self-management," or indeed, "achievement," while still recognising that the true nature of MLE and MLP may never fully be understood due to "hidden variables" and a "lack of absolutes" (Lincoln, Lynham & Guba, 2005, p. 102).

Using stakeholder perceptions as an aperture through which reality can be portrayed and triangulated with other perceptions (Krauss, 2005, p. 767), I have attempted to get close to a holistic understanding of the modern learning phenomenon. Within the realist paradigm, a complexity theory approach offers "considerable leverage into understanding societal, community, individual, and institutional change" (Cohen, Manion & Morrison, 2007, p. 34). As I strove to view the issue through the eyes of as many participants as possible, I accepted that social outcomes are not determined by single causes, but by multiple causes, which generally interact in non-linear ways (Byrne, 1998). My study of how MLE and MLP are perceived was intended to reject reductionist tendencies and embrace the holistic nature of how social systems work. Although there is some

debate regarding the definition and nuances of paradigms, approaches and theories (Lincoln et al., 2005), the complex nature of education and the interpretation of cause and effect is such that the multi-faceted effect of stakeholders - their symbiotic relationships with each other and their environments - should not be underestimated.

Research Design

In an effort to get as close to the truth as possible, I chose to collect data in the natural setting of a school undergoing a transition to MLP (Markula & Silk, 2011). As a teacher at the school undergoing the shift, I was already immersed in the culture and organisation of the school, and had previous experience of what it was like to be a part of the on-going change process (Krauss, 2005). Although this familiarity with the context provided its own unique challenges which will be addressed later, it is maintained that in subjective research, individuals' perspectives are best understood by a researcher situated in the context in order to be able to share the frame of reference (Cohen et al., 2007). As a long-term staff member at the school, I had the advantage of already possessing some understanding of the context within which all stakeholders were basing their perceptions.

Drawing attention to what can be learned from this single case of a school undergoing change, frames this research as an *intrinsic* case study, where understanding can be gained about what was important in this situated case, at a given point in time. Although generalisation is more challenging with intrinsic case studies, the hope is that there is "sufficient descriptive narrative" so that others involved in implementing a shift towards MLP may draw their own conclusions from the findings of this study (Stake, 2000, p. 439).

In endeavouring to make meaning from stakeholders' perceptions of the transformative shifts currently happening at the school, a qualitative approach to the research was, initially, an obvious choice (Krauss, 2005). However, I attempted to move away from potentially narrow or micro-

sociological perspectives, a dominant criticism of purely qualitative approaches (Cohen et al., 2007). At the same time, I also refused to accept the quantitative premise which focuses on performance indicators rather than experience, turning subjects into numbers (Denzin, Lincoln & Giardina, 2006). While different participants made different meanings, they all have undeniably shared the reality of the newly built environments and the effects of the trends of the educational community. Therefore, I structured this mixed method study to draw from the strengths and minimise the weaknesses of both quantitative surveys and qualitative interviews (Johnson & Onwuegbuzie, 2004).

By accessing the “real” lived experiences of members of the school community, I hoped to better understand “the essence of the phenomena in general” (Markula & Silk, 2011, p. 38). A sequential mixed method approach was employed in an attempt to reject paradigmatic dogmatism and to provide the best chance of answering the research questions (Johnson & Onwuegbuzie, 2004). A mixed-model stage, including a survey with summated rating scales, as well as open ended questions, was followed by a qualitative stage, involving semi-structured interviews with teachers and school leaders and focus group interviews with participating students.

Before describing the details of the case studied and each method adopted, I will spend some time discussing and rejecting the assumption that this work is an evaluation of the change taking place at one particular institution in New Zealand. The intention of this study was to conduct research into the question of how MLE and their associated practices are perceived, and any challenges that may arise as a result of their implementation, not to evaluate the efficacy of the shift. Although it is claimed that an organisation’s willingness to participate in evaluation tends to have a causal relationship with successful outcomes of the intervention (Clinton, 2014), my role was not to defend or uphold the agenda of the MOE or the Board and leadership of the specific school involved in this case study. The school involved may use the findings from this study to

inform future decisions and, possibly, improve their practice for the benefit of their students. However, evaluation is inherently a political enterprise, where theory is generally a *given*, rather than *interrogated* or *tested* (Cohen et al., 2007). Alternatively, I seek to interrogate, illuminate and understand the complexities of how large-scale reform, promoted by the New Zealand government, is interpreted by those people who are most affected by the change – the teachers, students, parents and school leaders. Although my own motivation was to gain further knowledge about this phenomenon, these findings may also be used to make decisions, solve problems or allocate resources across the educational spectrum.

Case Study Site and Participant Selection

As discussed in Chapter One, this case study took place at a large intermediate school in New Zealand. As I was a staff member at the school, I was able to engage in dialogue with the school leadership and Board of Trustees regarding my research intentions for over a year prior to data collection; throughout, they indicated a clear interest in the documentation of the changes taking place at the school. Although my views, tinged by the underpinnings of critical and complexity theories, belong solely to me, the school leadership has an interest in the analysis and reflection that this study may provide for their own institution as well as the wider educational community. As a result, their support of this research has been unreserved, including support of a teaching sabbatical to assist with completion of the thesis. According to Menter, Elliot, Hulme, Lewin & Lowden (2011), being transparent and open with potential respondents is likely to influence people positively towards a research study. With that in mind, prior to formalising the research process and commencement of data collection, and according to ethical expectations, I attended meetings with members of the school leadership, the Board of Trustees and full teaching staff to provide them a full picture of my research aims and intentions.

Participants – students, teachers, support staff, Board members, school leadership and parents – were accessed through the school record

system. Each of these members of the school community received an email, with a research information sheet attached, explaining the goals of the research and the procedures involved. This letter also contained a request for voluntary participation in an initial on-line survey. All students were issued with a separate comprehensive information sheet and consent letter, which allowed their parents or caregivers to provide voluntary informed consent for all research activities, including the survey and subsequent focus group interviews. When all voluntary consent had been procured, 44 parents (including 2 Board members), 110 students, 14 teachers, 5 support staff and 3 school leaders had agreed to participate in the study. This brought the entire sample size to $n = 176$.

Upon completion of the survey, participating teachers and school leaders were then invited to participate more fully in the study, in the form of semi-structured interviews. Participating students were also invited to participate further, through focus group interviews. These interviews comprised randomly selected, consenting students from participating teachers' classes.

Data Collection and Analysis

For this research study, I collected and analysed data from one New Zealand intermediate school that is undergoing a transformative shift to utilising Modern Learning Practice. Every participant undertook an initial survey, allowing me to gauge sample-wide perceptions of the definition of MLE and MLP, "Managing Self" within MLE and achievement and how it is measured in MLE. The survey data was then analysed to assist in identifying further participants - school leaders and teachers for semi-structured interviews and students for focus group interviews.

Initial survey.

The purpose of the initial, exploratory survey was to obtain community-wide perceptions of modern learning and examine any relationships or patterns in perceptions across the entire sample at a given point in time (Cohen, Manion & Morrison, 2011). As the survey was issued prior to the

qualitative data collection stages in this study, its use included providing evidence for potential corroboration with further in-depth participant responses in the interviews (Johnson & Onwuegbuzie, 2004).

An online link to the survey, along with a research information sheet, was emailed to all parents, Board of Trustee members and staff at the school. In the event that a parent did not list a home email address within the school record system, a paper copy of the research information sheet and survey were sent to the parent or caregiver's postal address. Completion of the survey was considered as constituting informed consent for all adults. Once consent for student participation had been obtained through a separate research information sheet, the same survey was then emailed to the participating students' school email accounts. Reminders encouraging all participants to make time to complete the survey were posted in the daily notices on the school website, which is accessible to all members of the school community.

The survey was designed to assist in answering the research questions relating to participants' perceptions of the definition and purpose of Modern Learning Environments and Practice. It was also created to prompt the exploration of more complex themes in interviews (Johnson & Onwuegbuzie, 2004). When developing the survey, I had to ensure precision in what I asked, yet allow room for participants' perceptions to be revealed, uncontaminated by leading or presuming questions (Bell, 2014). Similarly, I could not assume that participants had previous knowledge of MLE or MLP; therefore, I attempted to construct questions that were consistently clear and accessible for the range of audiences.

Designed with a mixture of closed and open questions, the 24-question survey (with 6 optional questions which did not have to be answered) was intended to explore perceptions around: definition, purpose, related vocabulary and perceived efficacy in relation to Modern Learning Environments and Practice and the key competency, Managing Self. The summated rating questions used a 5-point Likert-type scale to indicate

strength of agreement or disagreement with statements of satisfaction, comfort and effectiveness of the spaces and practice (Bell, 2014), where the open-ended questions delved deeper into participants' perceptions of the definition and purpose of MLE, MLP and the skill, Managing Self. Questions containing lists of related vocabulary and skills or strategies utilised in Modern Learning Environments were developed from the existing literature on 21st century learning. A more detailed description of the questions asked and the data gathered from the survey can be found in Chapter Three.

Keeping the survey instrument uniform for all participants was intentional in that it was more likely to gather standardised information across the participant population. However, as the survey was designed with a diverse population in mind – with regards to age, reading ability, life experience, role in school community and technical knowledge – it was important that it was accessible to all parties. Incorrect responses due to failure in the words or meanings used or inferred within surveys is an identified challenge when addressing the reliability of surveys (Cohen et al., 2011). As Fowler (1998) maintains, “A survey question should be worded so that all respondents are answering the same question” (p. 365). Therefore, the questions were developed without too much technical jargon. As a member of the school community, I had some insight into the appropriate level at which to pitch the questions in order to ensure understanding for most members of the community. However, careful piloting has been identified as a mechanism for combating misunderstandings within surveys. Therefore, in an effort to eradicate unforeseen confusion and to identify the root cause of any response errors, a pilot of the survey was emailed to a voluntary group of ex-students, parents and teachers from the school (Desimone & Le Floch, 2004). Although the pilot participants were chosen on the basis of convenience and availability, efforts were made to select people similar to those used in the planned survey (Fowler, 1998). This included an ex-pupil with dyslexia, an identified learning difficulty that could impair a respondent's ability to understand the questions asked. The feedback

from the pilot - including one administrative error and the addition of two questions that addressed respondents' views of the efficacy of the change - was then used to adjust the survey accordingly prior to launch.

The online survey was anonymous for all parents, support staff, Board members and students. Aside from identifying role (i.e. year 7 or year 8 student, Board member, support staff, parent), there was no other identifying information included in the survey. The attraction of anonymity for respondents makes the collection of aggregated survey data across a sample useful in a study such as this one (Cohen et al., 2011). The exception to this were teachers and school leaders, both of whom were asked to record their name on the survey for the purpose of exploring their responses further during interviews. Although research suggests that, in the context of non-anonymous surveys, teachers are inclined to respond in socially-desirable ways, the relative lack of questions that asked teachers to make quality judgments on their own or others' behaviours may have minimised such responses (Desimone & Le Floch, 2004).

Semi-structured interviews.

Although much of the data collected from the on-line survey is quantitative in nature, realism's objective – "to determine the reality of a social phenomenon through the triangulation of cognition processes" (Krauss, 2005, p. 767) – supports pluralism with regards to data collection methods. As a result, the second stage of data collection involved a series of semi-structured interviews with participating school leaders and teachers. Interviews are best used when a researcher wants to elicit information on people's perceptions, attitudes or meanings (Menter et al., 2011). Critics of methodological pluralism assume that a mixed methods researcher inherently places more value or weight on quantitative data (Denzin et al., 2006); however, in an effort to further probe the underlying purposes and meanings associated with participants' responses to the survey, follow-up interviews were deemed an appropriate next step (Markula & Silk, 2011).

School leaders and teachers were the only respondents asked to provide their name when completing the survey; therefore, I was able to identify individuals and their responses from the data collected. Teachers with divergent interpretations and perceptions with regards to: the purposes of MLEs, MLP and Managing Self, the efficacy of the spaces and practices being utilised and their overall support of the expected shift at the school, were selected for invitation to participate further. As the school leadership team of the site school has three members, each of whom voluntarily participated in the initial survey, they were all invited to participate further. All potential interviewees were notified through a formal letter, which requested clearly informed consent to participate in the interview process. Once participation was confirmed, a mutually beneficial time was set aside to conduct the interviews. As I am aware of the busy nature of the school, I was conscious to keep the interviews as convenient and relaxed as possible, while still maintaining a focus on the research objectives. This - along with our on-going rapport as professional colleagues - had the intended effect of putting participants at ease prior to the interview (Menter et al., 2011). I was conscious of accessing participants' ideas and thoughts through their own words. Therefore, with the permission of each participant, the interviews were recorded using a digital recording device, supported by brief notes that I took throughout. All seven interviews took place on site, either in the staff member's classroom or office or in a suitably private room, and took approximately one hour each. In total, three school leaders and four teachers participated in the interview stage of data collection.

Although I am a permanent member of staff at the site school, and all interviewees were known to me, it was still essential that, as a researcher, I build rapport, affinity and conciliation from participants to ensure honesty in their responses. To begin with, I checked that each participant was aware of the purpose of the research and that they continued to give consent to participate in the interview, with their responses recorded (Menter et al., 2011). I then reminded them of the ethical safeguards in place; that I would make every effort to ensure their anonymity and that no

data would be intentionally attributable to them. I explained that I would be asking a series of questions that linked to their survey answers, indicating to each participant that we would be re-visiting their responses for further clarification. I also attempted to establish in this preamble that the conversation was not about the two of us, but rather, a process through which to garner perspectives about the shift to modern learning. Therefore, interviewees were encouraged to give their honest opinion, even if they felt that it was in contradiction to what others in the community might feel. Lastly, I gave each participant an opportunity to ask any questions they may have regarding the interview process.

In an effort to go deeper into the motivations behind and reasons for the teachers' and school leaders' responses to the survey, the interviews were structured in an open, flexible way. Prior to the interviews, a schedule of possible open-ended questions and themes were derived from the existing literature, the research questions and each respondent's survey answers (see Appendices B1 & B2). However, as each interview transpired, I was able to adapt the wording or pursue participant thoughts and opinions as they emerged (Cohen et al., 2007). This promoted "free interaction and opportunities for clarification and discussion" (Bishop, 1997, p. 33), and was achieved through: active listening, encouragement, clarification, re-wording of interviewee's responses – whilst being careful not to impose unintended meaning – and sensitivity to the individual and their interpretations (Menter et al., 2011). Similar to the survey, the questions asked were largely standardised, though I frequently adapted the wording of the questions in response to participants' comments – either from their survey responses or within the interview. Questions centered around participant's perceptions of the definition, purpose, personal visions and efficacy of Modern Learning Environments and their associated practices, as well as the key competency, Managing Self. With each interviewee, I asked them to indicate, if they could, measures of success for modern learning, self-management and overall achievement in 21st century schooling.

At the end of each interview, I thanked them for their time and energy and encouraged each participant to email me if they felt that there was more they wanted to say on any topic we had discussed. Due to the emerging nature of the modern learning trend, I re-visited each participant during the data collection stage to collect their perspectives around the change of terminology by the Ministry – from Modern Learning Environments to Innovative Learning Environments. These “sound bytes” were added to the end of each transcript and included with the data for analysis. Once the interviews had been transcribed, participants were given the opportunity to review and amend their data, seen by Bishop (1997) as “a necessary part of the ongoing dialogue” (p. 36). This respondent validation allowed participants to check that what the data say represents their true opinions; it also allowed them to provide further information for the record or correct factual errors (Cohen et al., 2007).

Focus group interviews.

According to Bell (2014), “the purpose of a focus group is to focus discussion on a particular issue” (p. 191). Selected from a wider population, a focus group is a small group of people with similar characteristics, which convenes to elicit – via moderated discussion – participants’ views, attitudes and experiences relating to the research objectives (Menter et al., 2011). Like the semi-structured interviews, I chose to conduct facilitated focus groups with students, both to illuminate further thoughts or perceptions that may have been undisclosed in the survey responses, and as another point of triangulation of the data.

One of the major justifications for the building of MLE and the use of their associated practices is the provision of high-quality, student-centered, future focused learning spaces for all students. Therefore, it is manifest that the perceptions of student users are included in the research surrounding this phenomenon. Like interviews, focus groups were identified as a relevant mechanism to help interpret and understand some of the more ambiguous findings that arose from the survey. Students’ accounts in the focus groups could then be compared, contrasted and

triangulated with the wider school's survey responses (Menter et al., 2011). In fact, it has been suggested that focus groups are one of the best ways to gather data from children as the group setting can replicate a familiar and natural form of communication, much like talking with their peers. Focus groups may illuminate more clarity about their perceptions of reality as the desire to please one's peers has been documented to strongly influence children's responses in these contexts (Gibson, 2012). However, when working with emerging adolescents, it was important for me to remember that a desire to please peers could actually be a significant disadvantage in eliciting honest responses. I was therefore alert to this throughout the focus groups and made periodic checks with participants that they were in agreement with what was being said (Bell, 2014).

Students were selected from the 110 that initially provided consent at the beginning of the study. As triangulation of their perspectives and lived realities was essential to developing a picture of the community's perceptions of modern learning, I randomly selected students from the classes in which a teacher was involved in the interview process. I believe this participant triangulation – between school leadership, teacher and student – was vital to creating a broad understanding of both the perceptions and challenges of a shift of this magnitude. As there were four participating teachers interviewed, I conducted four focus groups - one from each teacher's class. Each focus group comprised of 5-6 students, depending on availability and the number of students in the class from whom I had obtained parental consent. Of the four groups, all were of mixed gender and academic abilities, with one group from a year 7 class and the other three groups from year 8 classes.

Students were invited to participate in the focus group interviews via an email to their school account. To ensure that each student had accessed their email and received the invitation, I personally visited each classroom and spoke to the group of students as well. In the email, I explained to the students that I was interested in their opinions and perceptions of modern

learning, and that I felt their contribution would be valuable to my research. I also informed them of the date and time of the interview – which had been negotiated with their teacher, to ensure that it was a time that was least disruptive to the classroom learning programme – and encouraged them to contact me if they had any questions or, in fact, would prefer not to participate in this stage of the data collection. The email also informed them of my intention to record their responses with a digital recording device and that responses made during the focus group could not be reviewed, amended or withdrawn. One student requested clarification regarding anonymity, which was responded to in a timely fashion, and all invited students participated willingly. Although I had informed the students and teachers that the interviews would take approximately 30 minutes each, the enthusiasm of the student participants was such that most took closer to an hour. All focus groups took place on site, in close proximity to their homeroom class – either in a small meeting room, “breakout space” or in a neighbouring classroom.

As with the staff interviews, I was aware of the need to build rapport – both between the students and myself, but also within the group as a whole – prior to commencing the data collection. My role as a specialist teacher at the school meant that I had taught each of the year 8 students the previous year, ensuring our familiarity with each other; however, I was aware that the focus group with the year 7 students required significantly more time to allow us to get to know one another. As the students were all from the same homeroom class, they knew each other prior to the focus group experience. However, as they were randomly selected, helping them to feel comfortable within this particular set of students was still an important step to ensuring the most honest and illuminating answers to my questions. Therefore, I employed two strategies suggested by Gibson (2012) in facilitating focus groups with children: building trust and establishing expectations. Firstly, I adopted a nonhierarchical, friendly manner in guiding the group discussion, reassuring the students that I was not there as a “teacher,” but as a “researcher,” that none of their responses would be reported back to their teachers or school leaders, and

that as I was interested in their opinions and perceptions, there was no right or wrong answer to any of my questions. With regards to establishing expectations, I set out six basic ground rules prior to beginning the interviews. These included: taking time to stop and reflect before answering, the ability to opt out of any question asked, seeking clarification if required, confidentiality of all responses, taking turns when responding and respecting the opinions of others by not teasing or making fun of their responses. With the year 7 group, I also spent an extended time on introductions, discovering a bit about each student and establishing any known familial connections in an effort to further build rapport.

Only after these steps had been taken did I then ask students if they had any questions before we began. Once all expectations had been established and all questions had been addressed honestly and openly, I then requested their assent to proceed with the interview (Gibson, 2012). Much like the interviews with staff, I attended each focus group with a prepared schedule of questions derived from the research questions and potential emerging themes from the survey responses and interviews with teachers and school leaders. These questions centered around students' perceptions of the definition and purpose of MLE and their associated practices, as well as the key competency, Managing Self. With each focus group, I also asked them to discuss, if they could, indicators of success for modern learning, self-management and overall achievement in 21st century schooling. However, as Gibson (2012) suggests, the tangential nature of children's dialogue meant that the questions did not always get asked in a particular order or worded as planned. As a result, I was careful not to jump in or redirect too quickly if I felt the discussion was heading off topic; instead, I allowed for the students to "gradually weave their narrative," whilst still employing strategies such as reflective statements, praise for engagement, acknowledgement of their opinions and feelings and prompting to support, but not elicit, answers (Gibson, 2012, p. 156).

At the end of each focus group, I acknowledged the students' participation, willingness, honesty and time. As focus group transcripts are reliant on the interaction between the students, participants did not have the opportunity to review or amend their data. However, I encouraged students to email me if they had any further thoughts about the topics we had discussed during the group session.

Data Analysis.

The purpose of analysis is to identify data that is relevant to answering a research question (Braun & Clarke, 2012). For this mixed methods research study, I collected three distinct groups of data: results from a community wide survey, data collected from seven interviews with teaching and leadership staff, and data obtained from four focus groups with students. As the mixed-model survey included both quantitative and qualitative responses and the interviews and focus groups produced qualitative responses, the recording and analysis of the data comprised of two methods of interpretation: collating and reporting of quantitative data from the survey and a thematic analysis of the qualitative data from surveys, interviews and focus groups. Once all the evidence was interpreted, the final report was written to include a synthesis and discussion of the findings across all the data collection methods (Johnson & Onwuegbuzie, 2004).

The survey, which consisted of both closed and open questions, contained: nominal questions relating to community group association and gender, summated rating scale questions in the form of Likert-type scale questions, list questions and open ended questions that provided respondents an opportunity to use their own words when describing their perceptions of MLE, MLP and Managing Self. As the survey was produced using an on-line questionnaire tool, data preparation was primarily done digitally. However, while the survey was "live," I continually kept track of data as it was input, checking the database for accuracy and charting the number of respondents to ensure that the sample size was sufficient for the purpose of the study. Another advantage of a digital

survey tool was that the construction of the database and the cleansing of the data was also completed largely digitally. Once all the data from the survey was collated, I was able to access the raw data and use the digital functions of the survey tool to create frequency distributions, capturing, in summary form, how the participants were represented with respect to their responses. It was in this way that I was able to “make sense” of the quantitative data (Menter et al., 2011). Data from the open questions was not only analysed in its own right, but it also provided guidance for the types of questions to use in the interviews with both staff and students (Bell, 2014).

The qualitative data collected from the interviews and focus groups was subjected to thematic analysis, which was largely inductive. The first phase of this process included a careful and thorough orthographic transcription of the digital recordings, including a verbatim account of all verbal and non-verbal utterances, such as laughter, and any significant pauses (Braun & Clarke, 2006). I completed this with the assistance of a digital transcription programme, which made the process somewhat less laborious through the use of keyboard shortcuts and timecodes for identifying specific points in time in each interview. Transcription itself is seen as an interpretative act, where I initially became intimate with the data. Once complete, I checked the transcripts against the original recordings for accuracy, making the data even more familiar and allowing me to reflect on and provisionally identify possible themes across the data set (Braun & Clarke, 2006). I then sent a transcript to each interviewee, providing them the opportunity to review and amend any of their responses. As agreed within the formal consent process, this was participants’ last opportunity to modify their data or withdraw their involvement in the study. The exception to this was data collected in the focus group interviews, where the data gathered from individuals was reliant on the interactions between students.

Seen as a tool to use across different data collection methods, thematic analysis is a flexible yet systematic way of identifying patterns across a

data set (Braun & Clarke, 2006). Much like my choice of mixed methods for data collection, my choice of a method for qualitative data analysis stems from both my research questions and my epistemological stance. As a realist, my assumption of a knowable world, while giving voice to the meanings created by participants in that world, suggests that inductive thematic analysis, “a method that works both to reflect reality and to unpick or unravel the surface of ‘reality,’” was most appropriate for interrogating the data collected within this study (Braun & Clarke, 2006, p. 81). As the surveys, interviews and focus groups all produced qualitative data surrounding the perceptions of the modern learning phenomenon, I was able to use thematic analysis to organise the data into meaningful groups, and therefore identify collective or shared meanings across the participants (Braun & Clarke, 2012).

Using a six step process proposed by Braun & Clarke (2006), I initially read and re-read the data, jotting down early ideas and notes, while familiarising myself even more with the data. It was important - both in this stage and throughout analysis - that I view the data on the basis of the participants’ experience and not allow my analytic lens to impose preconceived ideas based on my own judgments or the extensive literature I had read prior to examining the data. The next stage of the process involved reading the transcripts and survey responses again, this time generating initial codes and collating them across the data set. As I employed a more *inductive* approach, rather than a theoretical approach to the analysis, the codes - labels for potentially relevant features of the data - were derived from the data responsively (Braun & Clarke, 2012; Cohen et al., 2007). Codes were systematically highlighted within each transcript as I read, and collated digitally in separate documents.

The third and fourth steps in this process involved searching for overarching categories within the collated sets of codes and checking that coded extracts from the data truly represented each category. Using thematic maps, I mapped out the constituent parts of the developing analysis and began to identify themes, potential subthemes and the

interconnections between them (Braun & Clarke, 2012). This involved grouping the codes into bundles that “fit” each theme and then collating all the data within that theme. As thematic analysis is a recursive rather than linear process, this stage was complicated by the need to re-read and re-visit the coded data, re-coding as it became apparent what story the data was assisting to tell (Braun & Clarke, 2006). As well as the semantic meanings of the data, I attempted to interrogate the latent meanings – what was behind what was explicitly stated (Braun & Clarke, 2012). The interpretative aspect of searching for the latent meanings can bring into question the reliability of the evidence provided, as there is more chance that that the researcher’s agenda may get imposed upon the data (Cohen et al., 2007). With that in mind, I was careful to ensure that each data extract remained in context and clearly illustrated the overarching theme.

The fifth step involved generating definitions and names for each theme, ensuring that they were both as exhaustive and as mutually exclusive as possible – this helped to ensure the content validity of the narrative that I have attempted to tell (Cohen, et al., 2007). A more contextualised description of the analysis process and a summary of the findings, including relevant data extracts can be found in Chapter Four.

Validity and Reliability

Although a precise definition is up for debate, validity is, essentially, the suitability of the research design to credibly answer the research questions. In other words, can the data uphold the interpretation that is put upon it (Bell, 2014)? A mixed methods approach to this research study is one mechanism by which the validity of this study can be upheld. By utilising a variety of data collection methods, the authenticity and trustworthiness of the data is sustained, shedding more light on the reality of the participants’ experiences. Piloting the survey prior to launch helped to ensure that the respondents had a similar understanding of the questions as myself and that the questions did not misinterpret any concepts or ideas (Desimone & LeFloch, 2004). Finally, triangulation through corroborating the data from the surveys with the qualitative

interview data was a further way of ensuring validity of the evidence. A common invalidator of research is the presence of bias – either in the research design, collection or interpretation of the data. An identified weakness, particularly of qualitative research, is the presence of researcher bias (Johnson & Onwuegbuzie, 2004). Because of this, and my familiarity with both the case site and many of the participants in this study, it was essential that I was aware of and constantly reflecting upon my own personal beliefs, values and attitudes throughout the entire study (Menter et al., 2011). Bias with regards to the selection of participants was minimised through emphasis on the voluntary nature of participation. Although it could be maintained that an underlying expectation (from myself or the school) compelled some staff to participate, I attempted to minimise this through reassuring the staff of their right to decline to participate and that every effort would be made to keep their participation or non-participation completely confidential.

Within data collection in particular, I adopted neutral, non-technical language in the design of the survey and the interview schedule, reminding participants that – for the purpose of this study – I was in the role of a “removed researcher,” rather than colleague, teacher or friend. During interviewing, while I was aware of developing and maintaining rapport, I was careful not to ask leading questions, which may have caused the respondents to answer one way or another (Menter et al., 2011) and I avoided counter-transference behaviours such as judgement, support or condemnation with regards to the participants’ perspectives (Cohen et al., 2007).

Finally, another way to ensure validity is to subject the research project to peer review. Once the data was collected, teachers and senior leaders were invited to check, amend and verify their data through respondent validation. This process, to address intentionality or correct errors, adds to the authenticity and therefore the validity of the data collection process. In a similar vein, inter-rater coding reliability refers to whether another researcher – in this case, a detached peer with a background in

educational research – looking for themes in the same data, develops similar interpretations of the evidence (Cohen et al., 2007). My use of a peer researcher for initial inter-rater coding supports both the validity and the reliability of this study.

Where validity establishes whether the instrument measures what it intends to, reliability is concerned with whether the same findings would result from a repeated study of the same design (Desimone & Le Floch, 2004). The assumptions that underlie this interpretation are that the methods, data and findings should be controllable, consistent and replicable (Cohen et al., 2007). Therefore, reliability in this study is illustrated thus: it is *controllable* in that the data generated from the survey, interviews and focus groups would be similar if re-administered, *consistent* with regards to coding and thematic interpretations and *replicable* in that if it were repeated, similar findings would emerge.

Although the nature of this case study is physically situated, at a precise moment, in a time of evolving educational reform, it could be argued that in a similar school, undergoing a similar change process, within a similar social, cultural and political ecosystem, the perceptions of the community would be, principally, the same. However, the uniqueness and idiosyncrasy of each social context call into question the ability for a study such as this one to be truly controlled or replicated; though, according to Cohen, Manion and Morrison (2007), this should be perceived as a strength, rather than a weakness.

That being said, significant effort was made to provide a truthful and valid description and interpretation of the data provided by the members of this school community at this point in time. So, rather than suggesting the validity and reliability of this study is in its generalisability, it is more a case of *relatability*, as Bassey (1981, as cited in Bell, 2014) suggests – the ability to relate the findings of this study to other, similar cases – and, therefore, contributing to the literature on the future-focused learning discourse as a whole.

Triangulation

Another way to maintain credibility of the research process is through the use of triangulation. According to Stake (2000), triangulation is “a process of using multiple perceptions to clarify meaning” (p. 443). This can be achieved through a mixed methods approach to data collection, as well as the cross-checking of findings (Bell, 2014). Within this study, there were multiple levels of triangulation in establishing a narrative about the perceptions of modern learning: the use of more than one method of data collection, the collection of diverse perspectives from each of the primary stakeholders in the school’s community, and the cross-checking of the coding and thematic analysis, through inter-rater coding. The use of surveys, interviews and focus groups to generate data about the phenomenon – methodological triangulation – is seen as a powerful way to establish concurrent validity of a study. Similarly, studying the complexity of the shift to MLE and MLP by viewing it from more than one standpoint, allows cross-checking of perceptions to provide a richer, fuller picture of the reality of this case (Cohen et al., 2007). Lastly, the corroboration of data - either from the same methods or between diverse methods - with the assistance of an objective peer researcher provides triangulation and further ensures validity of the evidence presented in this study.

Ethical Issues

“Ethics is the branch of philosophy that deals with defining what is good (and what is bad) and with distinguishing the right from the wrong” (Menter, et al., 2011). Any researcher is required to conduct their research in an ethical manner, as set down by their university, the relevant national and international professional bodies, and by the law of the country in which the research is undertaken - in this case, New Zealand (University of Waikato, 2015). The regulations set down by these bodies assist to uphold the integrity of the research, while providing the necessary duty of care for all participants. Respect for the subjects’ rights and dignity should be paramount when designing and conducting a research project. This includes, but is not exclusive to: informed consent, access and

acceptance, protection from harm, right of withdrawal, sensitivity to cultural differences, anonymity and confidentiality (Cohen et al., 2007).

The design of this research study planned for no deception of participants nor anticipated any harm to come to them. However, as the case study school and many of the participants were known to me, it was critical that potential conflicts of interest were identified and minimised throughout the study. Initially, this was mitigated through thorough planning between myself and my university supervisor, and compulsory submission of an application for ethical approval to the University of Waikato's Faculty of Education Research Ethics Committee. This application ensured that I not only plan, in detail, the structure of the proposed research, but consider possible ethical concerns and describe procedures for minimising risk – to the participants, myself as a researcher, and the University itself. The major tenets of this application included: access to participants, informed consent, anonymity/confidentiality, potential harm to participants, participants' right to decline or withdraw from participation and conflicts of interest. These points are expanded upon below.

Access to participants.

As indicated previously, access to participants was secured through employment at the school and in preliminary discussions with the principal and Board of Trustees. This was formalised through a comprehensive research information sheet inviting voluntary consent from all participants – school staff, students, and parents. It was possible that teaching staff may have felt an implied pressure to volunteer to participate in the study due to the principal's support of the project. However, they were repeatedly assured of their right to decline through both the research information sheet and my personal reassurance in an initial information meeting held with all staff.

Informed consent.

All participants received a general research information sheet explaining the goals of the research. For staff and parents, including Board of

Trustees members, the initial on-line survey included the consent phrase, “By completion of this questionnaire, you are providing your consent to the collection of data.” Participating members of the school leadership team and teachers were then provided with a more detailed cover letter and an informed consent form. Every student in the school was given a similarly detailed information letter with the procedures involved; only those who returned an informed consent form signed by both parent and student were invited to complete the survey or participate further in the focus group interviews. Data was only collected from participants who returned signed consent forms and no pressure was put on any participant to consent to participation.

Anonymity/confidentiality.

Pseudonyms and other anonymous identifiers have been used for the case study school and all participants. Throughout the project, every effort has been made to ensure that no data are directly attributable to any individual participant. However, as the research was conducted within a school community, it is possible that members of that community may recognise other member’s contributions. This is most likely for teaching or leadership staff rather than students, whose participation in group interviews may ensure them greater anonymity. This possibility was clearly stated in the research information sheet for staff and reiterated to participants at the beginning of the interviews.

In the event that participating staff members were critical of decisions or policies made by school leaders, it is possible that their expressed views in this study could affect their future employment at the school – either through the breakdown of relationships or as an obstruction to future promotion. As a result, the pursuit to protect the well-being and professional integrity of all staff participants becomes that much more crucial and was given high priority throughout data analysis and presentation.

Potential harm to participants.

No participant was coerced into participating in this study. As a long-standing member of staff and part of the leadership structure at the school, new or less experienced staff could have felt compelled to participate. However, the research information sheet and informed consent form provided them with the opportunity to decline to participate, information which is held confidentially by myself only. An advantage to my role at the school is that I had the opportunity to personally assure them of confidentiality and to address any individual concerns they may have had.

Although I was on a teaching sabbatical for the duration of the research project, I had previously taught most of the year 8 students who participated in the study. Similarly, upon return from the sabbatical, I intend to resume my position as a specialist teaching staff at the school and will, therefore, have teaching responsibilities for the year 7 participants as well. It was made clear – both in the research information sheet and verbally – that my role as a researcher was separate and unconnected to my role as a teacher and that their participation in the research would not affect their achievement nor relationship with myself or the school.

Aside from the time required for survey completion and participation in interviews, participants were not required to give up much time for this research. Classroom work interruption was minimal, as most data was collected at a time that had the least impact on the classroom learning programmes.

Lastly, although this research project did not specifically explore the perceptions of the Māori community at the school, in comparison or alongside the wider community's perceptions, every effort was made to maintain cultural sensitivity, awareness and acknowledgement of participants who identify as Māori. Throughout the research study, I attempted to uphold the principles of the Treaty of Waitangi in ways that promoted and protected Māori interests when analysing and presenting

any relevant information. With this in mind, I made every effort to ensure the information letters, consent forms, survey, interview and focus group questions were consistently appropriate and sensitive.

Participants' right to decline or withdraw from participation.

All participants had the right, at any time, to decline to participate in any aspect of this research. Participants also had the right to withdraw data up until the time of analysis commencement. This was made clear throughout the process, both verbally and on the research information sheet. Interviewees were given the opportunity to review, amend or withdraw their data once their interview had been transcribed. The only exception to this was for student participants involved in the focus group interviews; this stipulation was clearly set out within the students' informed consent form.

Conflicts of interest.

As indicated above, potential conflicts of interest could have arisen with students or staff, as I am ordinarily a specialist teacher at the school. I attempted to mitigate these conflicts through clear communication in the detailed information letter and informed consent form, as well as verbally at the beginning of the staff and student interviews. Although I have also been a member of the leadership team at the school, all teacher participants were homeroom staff, an area of the school over which I have had no direct leadership responsibility or authority. Throughout the data collection and analysis stages of this research study, I took every effort to ensure that my role as researcher was conveyed as separate and unconnected to my role as teacher and leader as possible. This included maintaining a sensitive and respectful approach, posing neutral questions and neutral tone, and minimising counter-transference behaviours.

The following chapter summarises the findings from the three methods of data collection. Quantitative data are illustrated and described, and a more contextualised description of the thematic analysis undertaken for the qualitative data is provided.

Chapter Four: Findings

This chapter presents the findings from the initial survey, the teacher interviews and student focus group interviews conducted for this study. Firstly, the quantitative data collected from the survey – in the form of summated scores and comparative frequencies – is illustrated and described in relation to the research questions. Next, a contextualised description of the thematic analysis employed to generate meaning from the rich qualitative data is provided. This includes data collected from open-ended questions in the survey, the interview transcripts and the focus group transcripts. The step-by-step process of analysis is dissected and illustrated through: coded raw data, the clustering of extracts, the interpretation of semantic and latent meanings in the data, and the development of the 11 main themes, each which go some way to assist in answering the four subquestions and the one overarching research question. An integrated discussion of all the findings, both quantitative and qualitative, is undertaken in Chapter Five. Throughout these findings and the subsequent analysis, anonymous identifiers have been used to protect all individuals and to ensure, as much as possible, the confidentiality of each participant. Although the exercise of organising the data into themes involves a degree of judgment, I have endeavoured to present and analyse these findings without bias.

Initial Survey Findings

Quantitative data was collected through the initial survey, which all participants were invited to complete. As indicated previously, the main purpose of the survey was to examine any patterns or relationships in perceptions of MLE, MLP and the key competency, Managing Self across all participating stakeholders at a specific point in time. The generation of broad, generalisable evidence was designed to both give an overall impression of the shift at the case study site and to provide a platform from which to further uncover perceptions from semi-structured interviews and focus groups.

Of the 150 participants in the survey, 44 were parents (including 2 Board of Trustees members), 84 were students, 14 were teachers, 5 were support staff and 3 were members of the school leadership team. The survey consisted of 24 content-related questions, 18 of which respondents were required to answer. Of these 18 questions, 15 were closed-ended questions, using either Likert-type scales to indicate strength of agreement or disagreement or lists which allowed respondents to select vocabulary which they perceived best aligned with the definitions and purposes of MLE, MLP and learner self-management. For the most part, these closed-ended, quantitative questions were developed to assist in answering two of the research questions – “How is the definition of MLE and MLP perceived?” and “Within the context of MLE and MLP, how is student agency or “Managing Self” perceived?” However, additional questions were also designed to illuminate the respondent’s perceptions of the efficacy of the spaces and practice as well as their overall impression of the success of the shift to modern learning at the school.

Definition and purposes of MLE and MLP.

Respondents were asked, in a series of questions, their level of understanding of the purposes of the spaces (MLE) and the purposes of the teaching and learning that happen in the spaces (MLP). This was supported by a question that referred to how positively respondents viewed the shift to the use of MLE and MLP. All three questions utilised Likert-type scale answers, with 1 representing “not at all” and 5 representing “very well.” Table 1 represents the frequency distribution mean of the responses to these and all other Likert-type questions in the survey.

When asked “How well do you feel you understand the purpose of the ‘pods’?”, of the 150 respondents, the majority – 63 respondents – selected 4, “well,” with an average response of 3.62. Only 3 participants indicated that they had no understanding of the purpose of MLE. However, when asked, “How well do you feel you understand the purposes of Modern Learning Practice?” – described in the survey as “the teaching and

learning that happens in the pods” – there were far more respondents that indicated little or no understanding of MLP, with 31 selecting 1 or 2 for this question. Although a mean of 3.25 represented that many selected a 3 or above for an understanding of MLP, the majority of these, 55 respondents, indicated an inconclusive understanding of the teaching and learning that happens in MLE. Of the 150 respondents, only 15 respondents felt that they understood the purposes of MLP “very well.”

Table 1
Responses to initial survey questions, utilising Likert-type responses

Survey questions utilising Likert-type responses	Mean (n=150)
Definition and purposes of MLE & MLP	
How well do you feel that you understand the purpose of the 'pods'?	3.62
How well do you feel you understand the purposes of Modern Learning Practice?	3.25
On the whole, how positively do you view the shift to Modern Learning Environments ('pods') and how learning is organised there?	3.71
How much has your understanding of Modern Learning Environments ('pods') changed since you first heard of them?	3.33
Efficacy of Shift to MLP	
How well do you feel that the purposes of Modern Learning Environments ('pods') and the teaching and learning that happens there have been explained to you?	3.13
On the whole, how successful do you believe the school has been at implementing Modern Learning Practice (organising the teaching and learning in the 'pods')?	3.85
How well do you feel that the 'pods' at the school are used for the purposes listed above?	3.84
How well do you feel that the learning is organised (as indicated in the words above) in the 'pods' at the school?	3.71
How much more successful do you believe learners are in a Modern Learning Environment ('pods')?	3.55
Definition and purpose of 'Managing Self' competency within MLE	
How well do you feel that you understand the skills associated with 'Managing Self'?	4.02
How well do you feel that the skills associated with 'Managing Self' are currently promoted within the teaching and learning that happens in the pods?	3.77

To support these scaled questions which addressed perceived understanding of MLE and MLP, respondents were also asked to indicate, “On the whole, how positively do you view the shift to Modern Learning Environments (‘pods’) and how learning is organised there?”, where 1 represented “not at all positively” and 5 represented “extremely positively.”

The majority of participants indicated a positive feeling with regards to the shift, represented by a mean of 3.71. Nine respondents indicated a low feeling of positivity regarding the shift, selecting 1 or 2 for this question, while the majority – 68 respondents – selected 4, indicating a generally positive feeling about the change.

To delve further into respondents’ answers and to compare their level of understanding to current educational literature, participants were asked to indicate, from a list of words or phrases, which terminology they believe describe MLE and MLP. The lists of vocabulary developed for respondents to select from were compiled throughout the literature review undertaken for this study, from the dominant discourse surrounding 21st century learning. Space was also provided for respondents to provide their own terminology if they chose.

Of the vocabulary provided, “connected” (118), “include different learning areas” (105), “modern” (100) and “flexible” (94) were the words or phrases that were selected most frequently to describe MLE. These were closely followed in frequency by “fit for purpose” (76) and “contain modern furniture” (73). Conversely, words such as “quiet” (37) and “healthy” (28), although selected by some respondents, were chosen much less frequently. Figure 1 visually represents the spread of responses selected to describe the purpose of the MLE.

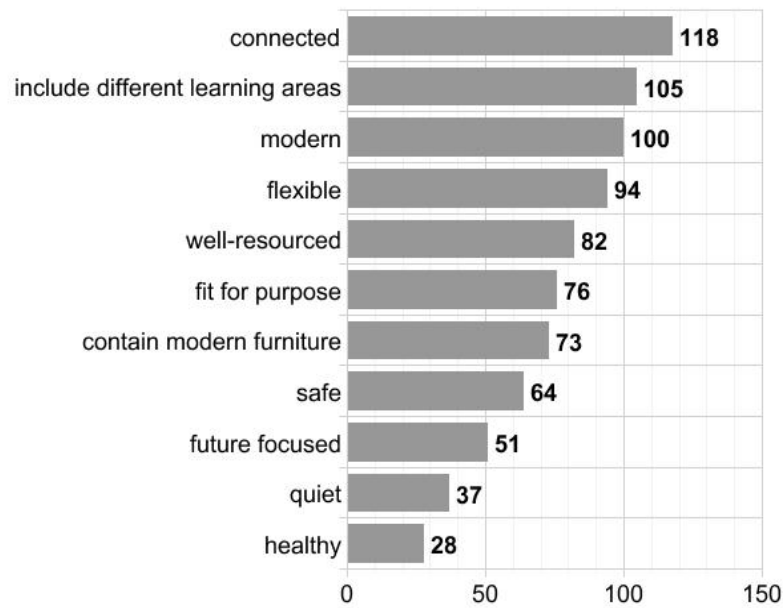


Figure 1. Words respondents selected to describe the purpose of the 'pods'

When given the opportunity to provide their own words to describe MLE, over half of all respondents - 77 participants - volunteered responses. In these answers, respondents continued to use vocabulary that suggested open, connected, flexible and modern spaces as well as words that are associated with comfort - "peaceful," "relaxed," "calm," and "comfortable." However, there appeared to be more emphasis in those additional responses on the behaviours that occur within MLE. This included a thread of responses which indicated that the spaces were designed to be engaging, social spaces that promoted student-centred pedagogies, including - though not exclusively - cooperation and collaboration. This was represented by answers such as: "fun," "dynamic," "interesting," "stimulating," "personalised," "creative," "enabling," "helpful," "shared," "collaborative," and "exploratory." Table A1 (located in Appendix A) outlines all responses from this question, organised into 14 general categories.

When asked to choose words that describe MLP, "modern" (96), "active movement around class space" (92), "engaging" (90), "flexible," (89) and "collaborative" (89) were selected most frequently. Additionally, over half

of the respondents chose “more than 1 teacher” (81) and “anywhere/anytime learning” (76) to describe MLP. Of the provided vocabulary, words such as “curriculum-driven” (41), “virtual” (32) and “learners choose what to learn” (45) were selected relatively infrequently. Figure 2 visually represents the spread of responses selected to describe Modern Learning Practice.

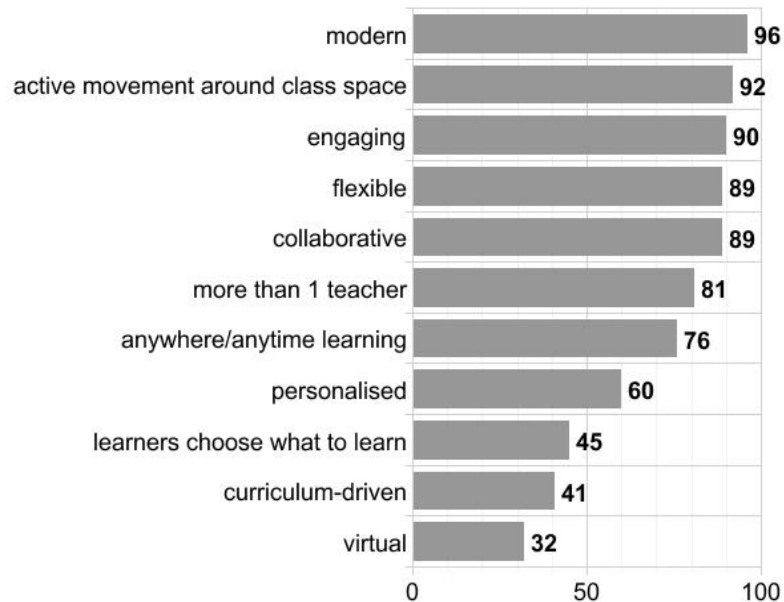


Figure 2. Words respondents selected to describe Modern Learning Practice

When given the opportunity to provide their own language to describe MLP, 39 respondents (35.4% of the sample group) volunteered other words. Of these proffered terms, student-centric responses were, again, significantly common, with a clear emphasis on structures provided by teachers, including targeted and focused acts of deliberate teaching. These general statements are supported by respondents’ voluntary suggestions of: “individualised learning,” “learners choose (from appropriate choices) what to learn,” “student initiated,” “targeted teaching and learning,” “deliberate acts of teaching” and “accelerated progress.” Although several respondents indicated that they did not know any other words to describe MLP and one respondent mentioned that MLP could be noisy, responses such as “good,” “enjoyable,” “rememberbal [*sic*],” “easier,” “quicker,” and “helpful” also point to the positive perspective some

respondents have of MLP. Table A2 (in Appendix A) outlines all responses from this question, organised into 11 broad categories.

In an attempt to triangulate these responses and paint a more holistic impression of the participants' perceptions of MLP, they were also asked to select, from a list, which teaching strategies they believe are being used in the pods and which skills are being learned as a result. As before, these strategies and skills lists were compiled from the existing literature on future focused learning and innovative learning environments.

“Group work” (134) was, by far, the most commonly selected teaching strategy, closely followed by “goal setting” (102) and “peer feedback” (90). Over half of respondents selected “roaming teachers” (83) as a utilised teaching strategy as well. However, “workshops” (44), “conferencing” (37) and “learner licenses” (22) were comparatively infrequently selected. Figure 3 visually represents respondents' selections when identifying teaching strategies they believe are being utilised in MLE.

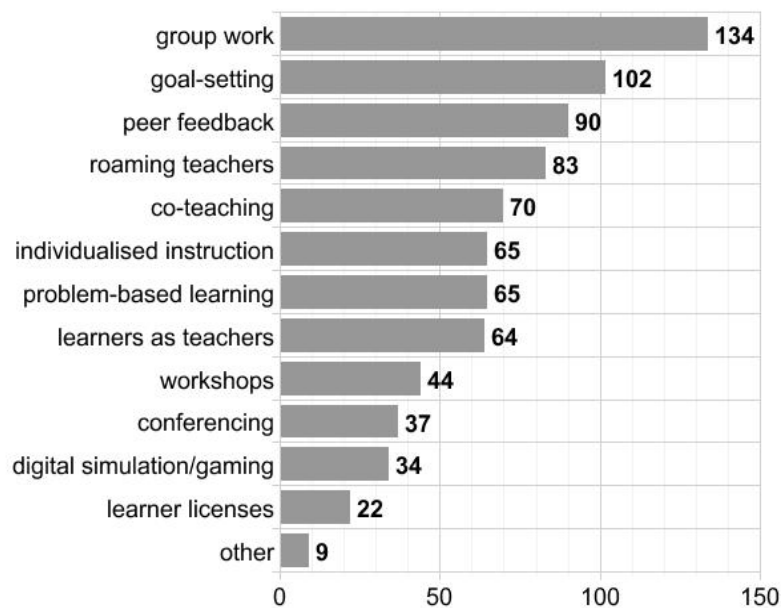


Figure 3. Teaching strategies respondents believe are being used in the ‘pods’

In relation to teaching strategies, respondents were asked to select which skills they believed students were learning in the pods, as a result of MLP. These are visually represented in Figure 4. Of these, “independence”

(125), “using technology/devices to support learning” (124), and “self-direction” (118) were most commonly selected, though competencies such as “communication” (106), “problem-solving” (96), “creativity” (91) and “collaboration” (88) were chosen by over half of the respondents as well. Skills least believed to be learned in the pods as a result of MLP were “planning for next steps” (71) and “knowing themselves as a learner” (70), both of which are identified in the literature as essential to effective self-management.

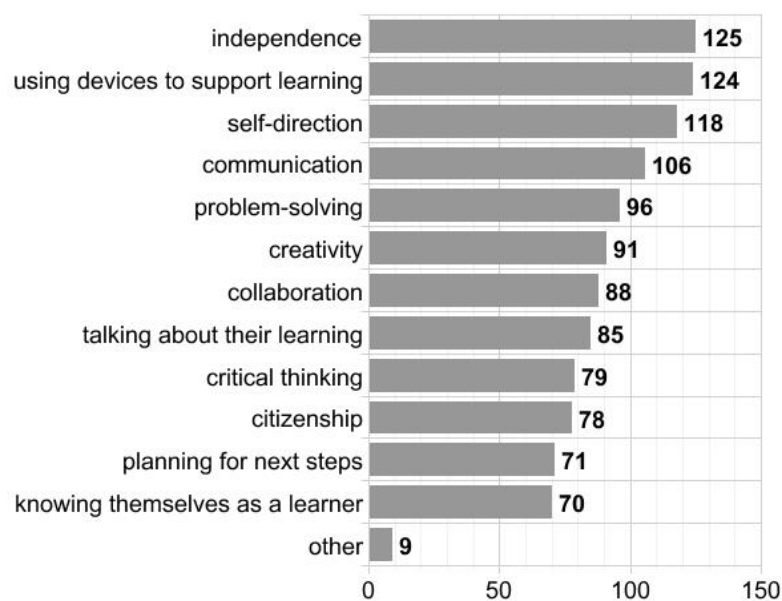


Figure 4. Skills respondents think are being learned in the ‘pods’

Respondents were also provided an opportunity to identify any other skills they believed were being learned in the MLE as a result of the teaching and learning happening there. Although both the vocabulary provided and the volunteered language aligned well with the 21st century skills and competencies suggested in contemporary literature, there was an identifiable emphasis from respondents’ voluntary responses on social skills, such as: “teamwork,” “respect,” “relationship building,” “relating to others” and “negotiation skills.” Both personal skills and learning skills also featured highly, for example, “individuality,” “self motivation,” “proactive,” “resilience,” “goal setting” and “managing self.” Table A3 (in Appendix A) outlines all responses to this question, classified into 7 general groups.

The last question in the survey designed to help answer the research question, “How is the definition of MLE and MLP perceived?” surrounded a potential shift in participants’ understanding over time. Respondents were each asked “How much has your understanding of Modern Learning Environments (‘pods’) changed since you first heard about them?” Answers were in Likert-type scale form again, with 1 representing “not at all” and 5 representing “extremely different.” Of the 150 responses, the average response was 3.33, indicating that their perceptions of MLE and MLP had changed somewhat over time. The majority of respondents (55) selected 4, which indicated that their understanding of MLE and MLP was now “different” from their initial perceptions (see Table 1). This shift in understanding is not wholly surprising, in light of the quickly evolving nature of this emerging phenomenon and the surrounding discourse.

These questions were all designed to capture perceptions across the participant groups regarding their interpretation of the definition of MLE and MLP. Although it was clear that the majority of participants’ perceptions had shifted since first learning about the modern learning phenomenon, they were, overall, distinctly positive about the shift to MLE and MLP. The recognition that MLE are “flexible,” “modern,” “connected,” and contain “different learning areas” indicates a clear alignment with the existing literature on 21st century learning environments and their purposes. Similarly, the belief that “group work,” “goal setting,” “peer feedback,” and “roaming teachers” are all utilised as teaching strategies within MLE and, “independence,” “self-direction,” “communication,” “problem-solving” and “collaboration” are skills that are being learned in these spaces, aligns well with the literature promoting student-centered pedagogies. Possibly, this indicates a synergy of message throughout the community – provided either by the school and the leadership, or from a dominant message that is more widely perpetuated via thought leadership or the media.

However, it is clear, on the whole, that respondents are more comfortable with the purpose of MLE than MLP. Although a cross-section of

respondents from each participant group provided their own definitions of MLP that were compatible with themes identified in the literature on this emerging phenomenon (see Table A4 in Appendix A) and, of the 35% of respondents that provided their own terminology to describe MLP, a significant number alluded to student-centred pedagogies, overall, the quantitative data collected with the use of Likert-type scales, indicated a relatively low confidence in the understanding of MLP (see Table 1). This is supported by an emphasis on vocabulary that aligns more closely to spaces than practice – “flexibility,” “modern,” and “active movement around class spaces.”

Although participants also indicated that MLP was “engaging,” “collaborative” and involved “anywhere/anytime learning,” the relatively low frequency of critical student-centred terminology such as “learners choose what to learn” generates a question of variation between respondents’ perceptions and, potentially, the practices that are actually being utilised. Similarly, the low rate of selection of student-centred teaching strategies such as “conferencing” and “workshops,” along with the low incidence of perceptions around “learners knowing themselves as learners” and “planning for next steps” provides a level of incongruity which requires further investigation. These disparities are addressed in more detail within the analysis and discussion of all the findings in Chapters Four and Five.

Efficacy of shift to MLP.

As part of addressing the challenges that may arise in embarking on a shift of this magnitude, a separate series of questions in the survey were designed to measure participants’ perceptions of the efficacy of the shift to MLP. This included questions that looked at respondents’ perceptions around: communication about the shift, implementation of the change, efficacy of the use of the spaces and the perceived practices, and the overall success of learners as a result of the shift. Again, all of these questions used a Likert-type scale to indicate perceptions, with 1 representing “not at all” and 5 representing “very successful” or “very well.”

In order to identify any potential disparity in responses as a result of communication errors, respondents were asked how well they felt that the purposes of MLE and the teaching and learning that occurs there had been explained to them. Of the 150 responses, the majority answered with a 3 or above, indicating that the purposes had been explained with some sufficiency, though only 13 felt that this was “very well” done. The mean response for this question was 3.13 (see Table 1). 32 respondents indicated that they had received a poor explanation or none at all.

When asked to score how successful the school had been in implementing the change to Modern Learning Practice, the results were, again, generally favourable, with a mean response of 3.85. Of the responses, 101 participants indicated a 4, “well,” or 5, “very well.” Only one respondent indicated that the shift had been “not at all” successful, and another 11 felt that the shift had been implemented in only a “somewhat” successful manner.

Although the survey was primarily designed to harvest impressions of the definition of MLE and MLP, I felt it was important to gauge whether or not there was synergy between the perceived purposes of modern learning and what participants felt was actually happening in the MLE with their associated practices, MLP. Therefore, respondents were asked how well they felt the pods at the school were used for the purposes that they had identified in the questions surrounding the definition of MLE. Not surprisingly, the majority of respondents felt that the pods were used “well” or “very well” for the purposes outlined and no respondents felt that they were “not at all” used for those purposes. This is represented by a mean response of 3.84. Similarly, when asked how well they felt the learning was organised – as indicated by the words used to describe MLP – respondents were also largely positive, illustrated by a mean response of 3.71. 70 of those felt that the learning was organised “well,” indicated by selecting 4 on the Likert-type scale. However, 13 respondents felt that the learning was only organised “somewhat well” or “not at all” well in relation to the purposes of MLP.

Lastly, I was interested in how much more successful participants felt that learners are in MLE. Their perceptions of learners' success could be an important thread in understanding the complexity of the shift and any inherent challenges. Therefore, I asked, "How much more successful do you believe learners are in a Modern Learning Environment ('pod')?" Again, although there was a clear spread of opinion and no unanimity, there were notably positive perceptions of the impact these learning environments may have on learners. Most respondents answered 3 or above for this question, with the majority (61 respondents) indicating a response of 4. Overall, the mean response to this question was 3.55. This general feeling, representing stakeholders' baseline impressions, is important to consider when delving deeper into open-ended responses.

Definition and purpose of 'Managing Self' competency within MLE.

The last section of the survey addressed respondents' perceptions of Managing Self, one of the key competencies identified in the New Zealand curriculum. In particular, they were asked to indicate their level of understanding of the skills associated with learner self-management and how well they felt those skills are promoted within the teaching and learning that happens in the pods at the school. Both questions utilised Likert scale answers, with 1 representing "not at all" and 5 representing "very well." As with other Likert-type responses in the survey, the distribution of these answers is illustrated in Table 1.

When asked, "How well do you feel that you understand the skills associated with Managing Self?" of the 150 respondents, the mean response was 4.02, with 64 respondents selecting 4, "well." Only 5 respondents indicated that they understood the skills associated with learner self-management "not at all" or "somewhat." Similarly, when asked, "How well do you feel that the skills associated with 'Managing Self' are currently promoted within the teaching and learning that happens in the pods?" participants responded positively. No respondents felt that Managing Self skills are "not at all" promoted, with again, the majority

indicating a 3 or above for this answer. This is represented by a mean answer of 3.77. 73 participants felt that skills associated with Managing Self were promoted “very well” in the pods, while almost half of respondents felt that these skills were promoted “well.”

To further explore respondents’ answers and to substantiate whether or not their understandings about learner self-management align with the literature, participants were asked to indicate, from a list of words or phrases, which terminology they believe describes Managing Self. The vocabulary list provided was developed from the existing literature on learner self-management. There was also space for respondents to provide their own terminology if they chose.

Of the words and phrases provided, “independent” (134) and “self-motivated” (133) were selected most frequently to describe Managing Self. However, “knowing what to do” (112), “having a ‘can do’ attitude” (107) and “goal-setting” (107) were frequently selected as well. Interestingly, over half of respondents also selected “knowing themselves as a learner,” and “reliable,” while exactly half of respondents indicated that “using planners to manage time” was a skill that was closely associated with self-management. “Resilient” was the word least selected by respondents, with only 55 respondents selecting it as a phrase that describes the competency Managing Self. Figure 5 visually represents the spread of responses selected to describe Managing Self.

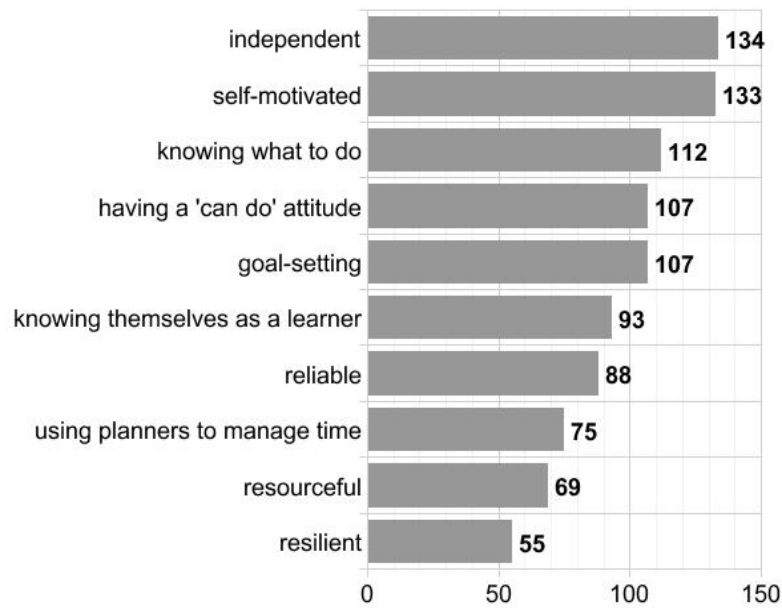


Figure 5. Words respondents selected to describe the competency Managing Self

When given the opportunity to provide their own words to describe Managing Self, only 36 respondents (24%) chose to volunteer alternative responses. Within these answers, the majority of responses focused around staying on task: “focused,” “how to get back on track,” “non-distractable,” and “on task,” as well as personal qualities, which refer more to holistic personality traits: “positive,” “sincere,” “confident,” and “capable.” Although “resilient” was not selected frequently when respondents were supplied with terminology, 6 of the 39 additional responses defining Managing Self centered around the concepts of perseverance and resilience. Table A5 in Appendix A outlines all these responses, organised into their relevant categories.

For the most part, this quantitative data indicates that, not only are respondents confident in their understanding of learner self-management and how it is promoted in the pods at the school, they also identify skills associated with the Managing Self competency that align well with the dominant discourse surrounding this skill. This indicates, initially, that there is little disparity across respondents with regards to the understanding of and implementation of this key competency. However, when respondents were given an opportunity to volunteer their own words,

of note was the spread of language used to describe the competency. In just 39 responses, 13 general categories were developed, spanning learning behaviours (such as organisation, focus and knowing the learner's needs), to personal behaviours (such as risk-taking and being resourceful), and social behaviours (such as consideration, respect and negotiation). This broad spectrum of responses amongst a relatively small sample of respondents suggests that there may be more discrepancy in interpretation than was immediately apparent. This is further discussed, integrated with the findings from the open-ended survey questions and data gathered during the interviews and focus groups, in Chapter Five.

The following section contains a contextualised description of the method of thematic analysis utilised in generating meaning from the qualitative data. Using data from the open-ended survey questions, interview transcripts and focus group transcripts, the sequential steps of rich data interpretation are detailed. This section serves not only to bring transparency to the data analysis process, but also provides access to significant excerpts of the raw data collected.

Open-ended Survey Questions, Interviews & Focus Group Findings

Qualitative data was collected from open-ended questions in the survey, interviews with school leaders and teachers, and focus groups with participating students. The purpose of these qualitative data collection methods was to further probe the underlying purposes and meanings of the responses provided in the survey. I subjected all the raw data to a rigorous inductive thematic analysis, with the research questions continually in my mind. Although I already had some sense of participants' perceptions of the definitions of MLE, MLP and the key competency, Managing Self, from the quantitative data, I felt that the interrogation of latent meanings within participants' own words could provide a more holistic picture of their perceptions and illuminate any potential challenges inherent in the shift. Additionally, the qualitative data would also assist me in answering the other two subquestions that drove this research, "How does the perception of MLE and MLP by teachers affect their engagement

in collaborative pedagogy?” and “What is achievement in this context and how is it measured?”

Within the survey, participants were asked the following open-ended questions, to both support their quantitative responses and help to answer the overarching research questions:

- In your own words, what is the main purpose of the ‘pods’?
- In your own words, what is the purpose of Modern Learning Practice - how the teaching and learning is organised in the 'pods'?
- Are there any questions you have regarding Modern Learning Environments ('pods') and the teaching and learning that happens there?
- Is there anything else you would like to say about Modern Learning Environments ('pods') and the teaching and learning that happens there?

Participants were required to answer the first two questions, while the second two were optional. All data generated from these questions were subjected to the same thematic analysis as the data collected during the interviews and focus groups.

The lists of questions used for school leader interviews, teacher interviews and student focus groups can be found in Appendix B. Although these schedules assisted in providing scaffolding for the process, the interviews and focus groups were semi-structured and I frequently adapted the wording of questions in response to participants' comments. The back and forth nature of the conversations that developed within each interview meant that participant responses were not formulaic nor did they necessarily feature as a response to an isolated question. The organic nature of this data generation further supports the use of thematic analysis to present and analyse the findings.

The first two steps of the thematic analysis involved thoroughly reading and re-reading all the qualitative data, then generating and collating codes

across the data set. An example of a coded section of transcript from a student focus group is visible in Table 2.

Table 2
Example of coded transcript from student focus group

Transcript with highlighted codes	Code
<p><i>I: What ways can you make choices in class about your learning? [S5] thinks that possibly you can't make choices about what you learn - is that? How do people feel about that?</i></p>	
<p>S1: Yeah, I agree with [S5]. You can't like, [the teacher] will, like, give you work and you don't really have that - well, at the start of the year, we did a piece of work that we had to choose what we did, but that was for [the teacher] to get to know us and stuff. But [the teacher] sets our work and we don't get really an option of what we choose to learn.</p>	personalisation
<p>S2: Yeah, what I was meaning before is, not just getting to do what you want, it's getting to do what [the teacher] sets when you want. So, it doesn't have to be like, yeah. But it like, if you have to do something that doesn't interest you, yeah.</p>	control/teacher-driven priorities
<p><i>I: Does that happen? Do you have to do things that don't interest you?</i></p>	
<p>S2: Sometimes, because [the teacher] doesn't give you work according to your interests. [The teacher] just sets work</p>	control/teacher-driven priorities
<p>S3: [The teacher] just gives work out for like the class that [the teacher] thinks...</p>	control/teacher-driven priorities
<p>S4: Well, yeah, I agree with this because like, earlier, like earlier in the term we had a piece of work where we had to do it on like, we kind of did get to choose what we wanted to do, but what we actually did, we didn't really get to choose what we did, we got to choose what we did it on. But we didn't really get the option to like change what we were doing, because I, I really didn't like what we actually had to do. I would have rather done something else and I ended up getting an extension like three times because I was like procrastinating because I didn't really want it, want to do it. So, yeah.</p>	control/teacher-driven priorities
<p><i>I: That's a really interesting point. When you are, if or when you're able to choose what you get to learn about, would that make a difference to you guys?</i></p>	
<p>S1: Yeah, probably. It would make, for some people, I'm not sure about me, but it would make school probably a lot funner for them because they would be able to do, they'd still have to do the work and everything, but they'd be able to choose what they wanted to do it on. Like, if they were interested in something, they could choose to do like a presentation about it or like a movie or something.</p>	personalisation
<p>S3: But, the thing about that is that if they get to choose what they do, the people who don't like doing work, or don't necessarily want to do work, will choose like really easy stuff to do and get that done or sometimes not get that done, and then they'll be free to do anything they like.</p>	personalisation
<p>S5: But, like, if it's suitable enough. It has to be agreed.</p>	

As there were many pages of data, from multiple sources, to begin with, the codes appeared to be very diverse and potentially disparate. In total, across seven interviews, four focus groups and 150 survey responses, I initially identified 118 codes. Throughout the recursive coding process, it became apparent that some codes required re-naming and therefore, data

previously coded needed re-coding. For example, some interviewees indicated a lack of engagement with the shift: “But there are some pods you know, 'No, we just don't do this’” (Teacher).

This led me, initially, to code extracts such as this one as “lack of engagement.” However, after analysing data across the set, responses regarding teacher engagement appeared, in fact, more varied and represented a spectrum of engagement:

I would put myself as the, 'Yeah, I'm all for it.' But I'm someone that I'm like, 'Yeah, I'm all for it but you gotta plan it well.'...I'm all for it as long as it's done right or it's done well and it's done for the right reasons. (Teacher)

My level of engagement with modern learning practice, or philosophy around it, has dropped. (Teacher)

As a result, I changed the code “lack of engagement” to “engagement,” to better represent the diversity of respondents’ feelings of engagement with the shift. All initial codes are listed – including any alterations (deletions and additions), in no particular order, in Table 3.

Table 3
Codes derived from qualitative data

All codes derived from open-ended survey questions, interviews and focus groups		
<ul style="list-style-type: none"> • teaching is not boring • oldest teacher • teaching = degree • length of teaching • focus on environment • environment v. practice • space for students (movement) • collaboration is good • fads • fickle nature of fads • flexibility of space • need for research • doesn't like MLP/E • relationships enable collaboration • nature of collaboration • contrived collaboration • collaboration = strengths based • collaboration as accountability • teaching style • implied competition • need for reassurance • collaboration v. streaming • uncertainty • dissatisfaction • shared ideas • initiative-itis • structure of environment • emphasis on reading • student choice • group teaching • Æ community feedback • no need to change • lack of support • off-task behaviours • excuse for off-task behaviours • lack of engagement • lack of shared findings • lack of communication • PD needs 	<ul style="list-style-type: none"> • cynicism • pick n' mix (teacher's professional judgement) • resignation • time wasting • speed of change • lack of experience • loss of autonomy • noise • rushing • mandating • value of reading • value of basic facts • challenges • teacher-driven self-management • control/teacher-driven priorities • honesty • standard of work • teacher assumptions • impact of devices • preparation for high school • inconsistencies • knowledge accessibility • standards v. modern learning • teacher reluctance • suitability of class groups • feeling left out • 21st Century skills • transparency • too loose • pressure • scaffolding • fallacy of ideal • universality • default teacher behaviours • developing vision • reluctance to innovate • teacher-student relationships • need for recognition • the unknown • visibility/showing off 	<ul style="list-style-type: none"> • benefit of single cell • student success • serial re-design • question of definition • soft systems • goal setting • task completion • responsive • fallacy of modern • confidence (willingness) to innovate • student needs • student-centred (student outcomes) • teacher-centric v student-centric • personalisation • lack of common ground • communication • student accountability • isolation • student-driven self-management • creativity • equality • variety • community perceptions • rich v. surface learning • thought leadership • paradigm shift • collaboration as effective teaching • kick back • reflective/reflexive practice • belonging • collaboration as support • authentic contexts • metacognition • definition of m.s. • collaborative learning • student-student relationships • resources • comfort • house structure

Using a digital highlight tool, codes were indicated by colour, then collated within separate documents. This allowed me to group codes from across the data set as I began looking for patterns within and between codes. An example of coded extracts from a range of data sources can be found in Table 4.

Table 4
Example of coded extracts across the data set

Codes	Extracts
flexibility of space	<p>School Leader remove some of the restrictions of traditional, single-cell environments and open up alternative possibilities.</p> <p>we've got to learn how to use them as flexibly as they, they can be used.</p> <p>I think the spaces are flexible enough that they can be used in a variety of ways. That, you could argue, has slowed some of the progress and the pedagogical changes and changes in thinking. But it has provided security for the staff, for the community, for the students.</p>
flexibility of space	<p>Teacher And so, I think that's quite fortunate here that they made those rooms so they can be, you know, shut off.</p> <p>They want to be able to shift around, which I don't actually agree with.</p>
flexibility of space	<p>Teacher The spaces at this school also provide a greater degree of flexibility than some of the more recent barn models.</p> <p>The buildings that we have at our school are certainly versatile enough to allow for shifting teaching practice on a day-to-day basis,</p>
flexibility of space	<p>Teacher open up the opportunities for teachers and students to collaborate in a space that is flexible and easily changed to suit the learning that is needed.</p> <p>obviously, there's spaces that we can move together, so you can make two rooms go together, you can have everyone in one space, you can kind of just adapt it to what you're doing.</p>
flexibility of space	<p>Survey - Support Staff To provide more flexible / versatile teaching areas than separate classrooms; to provide multi use spaces during and after school hours not always possible with separate classrooms</p> <p>Teachers and students have the flexibility to adapt learning environment and teaching methods to suit the needs of learners.</p>
flexibility of space	<p>Survey - Parents/BoT Pods allow for a more flexible and adaptive learning environment that can be better utilised to meet the learning needs/requirements of the students.</p> <p>allow children opportunity to work environment which supports learning by being smaller, quieter environment and more intimate. Opportunity to have different learning areas.</p> <p>Provide break out spaces, alternative spaces to work in a variety of collaborative or individual ways.</p> <p>Spaces that can be re-configured for different needs.</p> <p>Flexible learning environment that allows for sharing of resources and space.</p> <p>To provide a space for learning that is flexible - group seating, not locked to desk, using the space to match the purpose of each learning activity.</p>
flexibility of space	<p>Survey – Year 7 you can easily close the sliding door to keep a class to itself</p> <p>learning in the pods can be quite helpful in the aspect of being able to shut your class door, and shut off the humming of voices from the shared space as we take a test, or being able to use the computers in your own class, instead of the ones in the shared space.</p>
flexibility of space	<p>Focus Group Students we had like two classes together with like sliding doors that you could go in and out. And you could like go through but you could also shut it as well, whenever you wanted to.</p>

Throughout the coding and re-coding process, it began to become apparent which codes were redundant, which were potentially synonymous, which were free standing and which were dependent on others. Once all the data had been coded and collated, I subjected it to another thorough reading before I began the process of bundling codes

into related categories, which could potentially become subthemes or themes. I gave each bundle of codes a heading, which represented the patterns I had noticed within them – these headings were not themes, but assisted me in developing conceptual umbrellas, which I would eventually construct into the eleven main themes. These clusters of codes and their associated headings are found in Figure 6:



Figure 6. Bundling of codes for thematic analysis

Once the bundles of codes had been assembled, yet another reading of the extracts within the context of the grouped data further indicated how participant responses were collectively telling an underlying narrative of their perspective of the shift to MLP at the school. At this stage, I focused intently on both the semantic meanings – what was explicitly said by respondents – and the latent meanings – the ideas behind what is

immediately apparent on the surface (Braun & Clarke, 2006). This provided a structure in which to address the inconsistencies that were becoming apparent across the data set.

An example of this is how respondents discussed perceptions of teacher collaboration. Generally, these were strongly synergistic across all participants' responses – that teacher collaboration enabled consistent, effective, strengths-based teaching opportunities through shared ideas, transparency and peer accountability. However, there were significantly enough data to warrant a further interrogation into how teacher collaboration was actually perceived and implemented by teachers. Therefore, I was compelled to organise the bundles of codes in terms of their surface meaning as well as their latent meanings. In the specific example of teacher collaboration, this meant identifying extracts which represented the data-wide semantic interpretation of teacher collaboration, including: “consistency,” “equity,” “strengths-based teaching,” “transparency,” “accountability,” and “shared ideas.” An example of these extracts can be found in Table 5.

Table 5
Teacher collaboration - Surface meanings

Teacher collaboration - Surface meanings		
Equity/Consistency/Shared Ideas		
<p>School Leader one of the key things that I see as being really important...every student that comes to our school - regardless of who...they end up being taught by, they should all get equal opportunity and access to high-quality teaching and learning.</p> <p>Survey – Parents/BoT They can have a different teacher which sometimes can help their learning as not all teachers work the same Children get to work with other students and teachers. This means there is a greater pool of ideas and expertise</p> <p>Focus Group Students S1: Like, cause, there's like six people in this pod, helping. There's like 120 students, so you work it out - it's like one teacher with like 20 and then like in primary schools, you've got one to 30. So, you've got a lot more help.</p> <p>School Leader I would like, with MLP, any kid coming into our school, to be getting the same depth and breadth of learning, regardless of what classroom they're in or what pod they're in. I'd like there to be more consistency</p> <p>Teacher Collaborative planning, collaboratively working together for the benefit of the children, collaboratively sharing out the groups, so if you have a strength, like in writing, if you have a strength in writing</p>		
Transparency	Accountability	Shared Ideas
<p>School Leader you can't underestimate the impact of teachers watching teachers, just incidentally, throughout the day.</p> <p>Teacher It allows a greater degree of reflection because you can see what other teachers are doing.</p> <p>Teacher ...it gives the chance for the teachers to work collaboratively ...and provides a lot more sort of clarity - you know, we can all see what each other's doing as well...it could be positive and negative...</p>	<p>Teacher You know? Because, if not, you're letting down three other people and you're letting down students, if you're not keeping on top of everything.</p> <p>School Leader teachers keep each other, hold each other to account.</p> <p>School Leader 'I'm gonna really, you know, pull out stops to make sure this really works, because my peers are gonna see it, the other kids in the pod are gonna see it. I want them to think, you know, I'm a good practitioner.'</p>	<p>Focus Group Students S1: Yeah, like, when we're at Spec, they go have like meetings about what they're gonna do and stuff.</p> <p>S2: Their masterplan.</p> <p>S1: Rather than just working out for their class, they work it out together as a pod.</p> <p>Teacher Collaborative, working out units and things, I think is fabulous. I really like that. I get a wider range of ideas if there's two of us</p>

However, it was apparent that there were also extracts which represented other perceptions of teacher collaboration, such as whether teacher collaboration was looked upon positively or not, how teachers felt when trying to collaborate, and a clear message from school leaders that, in their mind, sharing ideas and resources did not suffice when being asked to collaborate. Therefore, I identified and tabulated extracts which

represented these latent meanings, including: “reassurance,” “frustration” and “leadership’s aim of improving practice.” An example of extracts that represent the latent meanings that underlie the idea of teacher collaboration at the school are exhibited in Table 6.

Table 6
Teacher collaboration - Latent meanings

Teacher collaboration – Latent meanings		
Reassurance	Frustration	Leadership’s aim of improving practice
<p>Teacher I've always liked collaborative teaching.</p> <p>Just to make sure I'm on the right track, really</p> <p>So, you know, I need other people to reassure me that, 'Yeah, you're on the right track there.'</p> <p>Teacher I found, particularly as a beginning teacher, I really valued having people so nearby, and sharing things with me.</p>	<p>Teacher And it, it's resulting in a degree of frustration.</p> <p>Because if they don't have ownership of what they're doing, their classroom practice is gonna suffer as well. So it's just trying to be all things to all people. And so it's hitting middle ground the whole time. It's almost like teaching to the middle of the class.</p> <p>School Leader they probably view it as supporting others.</p> <p>So, my challenge for them, really, is how can they be part of ensuring that all teachers at this school are at least as effective as they are.</p> <p>Teacher it's just kind of like if no one has a clear idea, you just go round and round in circles. And that can be frustrating.</p> <p>it just feels like, sometimes, pulling together four brains to get something done can be just a little bit tiresome and difficult.</p>	<p>School Leader 'Oh, yeah, yeah. We're collaborating,' cause they would get together and plan a unit together. So that was her idea of what collaboration was, whereas that, to me, would be just the very start of what collaboration is.</p> <p>School Leader we had a focus last year on collaboration, particularly around planning - this year it's extended into the delivery.</p> <p>And that's where the real challenges are, because it involves actually, not only doing the thinking about the plan together and then 'I'll go and deliver it myself,' but it involves thinking about how we might deliver this collaboratively.</p>

This process was followed for each bundle of codes, illuminating the relevant data and isolating the idiosyncratic. The patterns and story that unfolded were derived from both the richly complex semantic and latent meanings in the data.

The last stage of the rigorous thematic analysis was to interpret all meanings and frame them within an accurate, unbiased narrative that

would provide a relevant and sufficiently interesting answer to the research question. This was done through the construction of 11 main themes:

- The Dichotomy Between Flexibility and Structure
- Change Without Community Consultation
- Change as an Iterative Process
- The Origin of Modern Learning
- The Fallacy of “Modern”
- Teacher Reluctance
- Student-centric v. Teacher-centric Pedagogies
- Teacher Collaboration to Improve Practice
- The Product and Process of Managing Self
- The Paradox of Scaffolded Self-management
- Traditional v. 21st Century Achievement

A theme is seen as a “*patterned* response or meaning within the data set” (Braun & Clarke, 2006, p. 82). Therefore, themes were labeled, defined and shaped through the use of extracts from across the data set to compare, contrast and justify their position within the story that I am attempting to tell. Deep, detailed analysis and discussion of each of these themes is undertaken in Chapter Five.

Chapter Five: Discussion

As presented in Chapter Four, the qualitative data collected in this study were subjected to a thematic analysis, culminating in 11 main themes, each of which contributes to answering the research questions. This chapter reports on these themes, integrates them with findings from the quantitative data and interprets their relevance within a larger conceptual framework. As well as providing an analytic narrative with the use of specific data extracts for each theme, I attempt to depict how the themes relate to each other and, therefore, my research questions (Braun & Clarke, 2012). Consequently, the themes - represented by the following 11 headings - are presented in a particular order, to best represent the compelling story about the shift to MLP at the case study school. Discussion around each theme goes beyond merely a description of the data, and attempts to make an argument about how the data can be interpreted to better describe and illuminate the modern learning phenomenon.

The Dichotomy Between Flexibility and Structure

The first theme is concerned with the complexity of promoting both flexibility and structure within MLE. Similar to its prevalence in the literature surrounding 21st century classrooms (Bissett, 2014; Blackmore et al., 2011b; Byers, Imms & Hartnell-Young, 2014; Osborne, 2013; Partnership for 21st Century Skills, 2009), participants in this study identified *flexibility* as a key element of MLE in enabling more specific and purposeful teaching and learning practices to take place. As well as mentioned frequently in responses to survey questions (see Table 1 and Table A1 in Appendix A), the flexible nature of MLE was referred to many times in the interviews and focus group data. However, participants also expressed concerns regarding noise, avoidance, time-wasting and other off-task student behaviours, as well as questioning the suitability of the environment for all learners. As a result, there was a call for well-organised structure and the implementation of effective soft systems to combat these concerns. This dichotomy between flexibility and structure

is pervasive throughout all the themes, a tension that I believe ignites uncertainty, debate and, for some, a lack of engagement with the shift to MLP.

For instance, one teacher's survey response about the purpose of MLE indicated that they "provide 'fluid and flexible' learning spaces in which students and teachers can learn in an open and collaborative environment." Additionally, a senior leader's survey answer suggested that the flexibility of the space can allow for a variety of learning experiences that could not happen in a traditional classroom: "Pods enable greater flexibility for teachers and students to find the most effective way for teaching and learning to happen - they remove some of the restrictions of traditional single cell environments and open up alternative possibilities." These potential alternatives for teaching and learning are illuminated by a parent, who stated MLE are "a space for learning that is flexible - group seating, not locked to desk, using the space to match the purpose of each learning activity," suggesting that the ability of the space to be re-configured is inextricably linked to the flexibility of the practices utilised within those spaces. This is a viewpoint that is represented persistently throughout the literature, with regards to the use of open, flexible spaces (Fisher, 2005; Harris, 2010; Imms & Byers, 2015; Osborne, 2013; Tanner, 2008; Wall, 2014a;).

Participant responses about the flexibility of the space also included the ability to revert to a more closed, single-cell environment, with students suggesting in the survey, "you can easily close the sliding door to keep a class to itself" and "learning in the pods can be quite helpful in the aspect of being able to shut your class door, and shut off the humming of voices from the shared space as we take a test." This is supported by one teacher's observation, "I think that's quite fortunate here that they made those rooms so they can be, you know, shut off." Additionally, a school leader highlighted how the flexibility of the spaces allows them to be interpreted in different ways, "our learning environments do, can, look very

traditional. And we don't go out to make them look traditional, because we have doors that can be pushed right back.”

The need for the spaces to be able to flexibly revert back to a more closed environment is also illuminated by another school leader:

I think the spaces are flexible enough that they can be used in a variety of ways. That, you could argue, has slowed some of the progress and the pedagogical changes and changes in thinking. But it has provided security for the staff, for the community, for the students.

The underlying message in school leaders' comments about gradual change and providing security for the users of the spaces signals a belief that MLE not only provide flexibility to adopt a range of new practices, but that flexibility also presents an opportunity to employ traditional, single-cell environment pedagogies as necessary. This use of flexibility in MLE to maintain current teaching and learning practices, rather than “modern” pedagogies is further addressed in subsequent themes.

Nonetheless, in relation to the dichotomy with structure, it is clear that participants had concerns with how the openness of the space might allow students to become lost or distracted. One teacher alluded to MLE promoting “an opportunity of a lot more spaces to hide” while a school leader referred to avoidance strategies of specific students: “I do think that the kids that have had avoidance strategies for whatever reason in a traditional classroom, I just think there's more corners for them to hide in now.”

Both students and support staff expressed concern about levels of distraction in MLE, which invariably impacts on learning, identifying the spaces as “noisy and distractive in a way that might not be conducive to a student producing work of a high standard” (Support staff), or “just real distracting” (Student), when referring to having the doors open at all times. Additionally, the proximity to other groups of students provoked this written reaction by a year 8 student in the initial survey, “if u [*sic*] interact with to [*sic*] many classes u [*sic*] get distacted [*sic*].”

These extracts are indicative of a significant number of expressed concerns, and suggest the need for well-defined structure within these open, flexible environments. A school leader identified this by asking, “if we're gonna change the way we do things here....What systems are we gonna have to put in place?” This was echoed by other staff: “we need systems to ensure kids are really clear about what they're doing, why they're doing it and when it's due” (School leader), and “soft systems are crucial to structure the environment students learn in” (Teacher). Similarly, parent responses mentioned structure as critical as well, calling for teachers to “be on the same page with routines and organisation.”

When reflecting on their practices within MLE, two teachers referred to the organisation, routine and expectations necessary within flexible spaces. One admitted that the MLE has become “surprisingly structured,” because, in order “to actually achieve [flexibility and choice], you have to have quite clear structure.” The same teacher believed “for this space to work with 122 children, [students] need to follow these expectations.” Similarly, another teacher referred to “well-planned movement” of students within the space, elaborating,

It's not sort of like a free for all where it's just like chaos...it's regimented and it's planned so that the movements are all sort of synched to what everyone else is doing at the same time, so that there's a lack of disruption or disturbances across the team.

The synergy amongst these responses is, albeit interesting, not the point of this theme. It is fairly safe to assume that most stakeholders in public education would agree that well-organised teachers and well-structured spaces with clear behavioural expectations will only benefit learners, providing them with a calm, routinised context in which to learn and succeed to the best of their ability.

However, it is the jargon of *flexibility*, used with apparent confidence across all participant groups, which raises the question of clarity. The previous teacher's surprise at the need for structure stemmed from a confused initial interpretation of flexibility. The reflection, “I think, at first,

what was presented to me, and maybe seen as the ideal, seemed to be quite, in my mind, a crazy, sort of, loose situation,” suggests a perception of flexibility as too loose or even, anything goes. Therefore, the response as a teacher in the environment was to build structure, through clear expectations, routines and systems. This may or may not be “teacher environmental competence” - using space to support pedagogical practices (Lackney, 2008) - as it is not clear whether the teacher’s desire for structure was directly linked to pedagogical choices or more about a sense of control. This potential struggle between teacher-centred and student-centred pedagogical practices in MLE, including the role of teacher control in the equation, are dissected within a subsequent theme. For now, I conclude the dichotomy of flexibility and structure with another teacher’s reflection on the practices that must accompany the openness of space, “A building is a building in the same way that a hammer is a hammer - it does nothing without being used constructively by those that are equipped to do so.”

Change Without Community Consultation

The following theme charts the non-consultative process of change at the case study school and how the leadership has managed this, in light of perceived negative connotations of the implementation of MLP within the wider community. As part of the shift, and due to assumed perceptions about how the community will respond - supported, in part, by the Ministry’s migration to ILE and their testimony of a “growing discomfort” with the term MLE (New Zealand Ministry of Education, 2015d) - there has been a deliberate lack of communication with the wider community regarding the implementation of modern learning practice at the case study school. This covert approach by the school was mirrored in parents’ perceptions of being ill-informed about the change and the overall purposes of modern learning.

Staff participants, particularly school leaders, described perceived negative connotations associated with MLE and MLP within the community. For instance, one school leader maintained “modern learning

has the potential to have quite negative connotations for some people because they go, 'Ah, 1970's, open-plan classrooms, chaos, loud.'" Similarly, another leader believed "we're starting to see some schools market themselves as not doing modern learning, because, you know, there are parents out there who aren't convinced." Teachers also reported unfavourable perceptions, with one indicating that "a number of parents" had questioned it, and another teacher reporting in the survey that they "heard comment from parents, teacher aides, and even children who say that childrens' work rate and focus has 'suffered' in such environments."

Although a school leader suggested that these perceptions may come from "the way that, you know, some schools in some situations have gone about administering or implementing Modern Learning Practice," it is clear that the school leaders felt protective about their decision to make the shift to modern learning. In fact, their adoption of FREDL – Flexible and Responsive Environments for Deep Learning – as their chosen terminology, rather than MLE or MLP, indicates their desire to disassociate with modern learning jargon. One leader specifically made mention of this by admitting, "we're trying to avoid 'Modern Learning Environment' as a term. Because... people are building their own, sometimes negative perceptions of modern learning."

As a result of the possible negative connotations associated with MLE and MLP, it was apparent that the school leadership has been reluctant to communicate transparently and openly with the parent community about the shift being undertaken at the school. A school leader referred to this as "flying under the radar":

I think we've been able to - and it's been a little bit deliberate - to reasonably successfully sort of fly under the radar with modern learning environments and modern learning practice. I say its been a little bit deliberate because we've been on a... learning curve, a learning journey ourselves, we can fly under the radar while we learn how to make the best use of these spaces that we've got.

While another agreed the process had been "not quite by stealth," and "we're just slowly changing and not telling anyone," it was also recognised by a school leader that it is the school's "responsibility to educate the

parent community around what we're actually doing, why we're doing it and what it's gonna do for kids” and acknowledged, “I don't know that we do much of that.” As a result, yet another school leader suspected parents “want clarity at this stage, to be fair.”

This apparently united covert approach might remain largely unremarkable but for the feedback provided by participating parents in the initial survey. These responses indicated that, not only did some of them feel uninformed about the shift in practices taking place at the school, but the lack of transparency from the school had actually contributed to some distrust. Responses such as, “I really don't know. I don't feel the parents are very well informed about this,” and “I would like to have a better understanding of this environment and how it is seen by the children and teachers,” are coupled with a recognition of the lack of transparency. “I think they need to be totally transparent in what happens in them and whānau should be welcome, as long as they do not disrupt the learning environment” (Parent). In fact, while one parent indicated, “the detail of how the practice brings the aims to life is not easily accessible,” another indicated how their lack of understanding had led to a feeling of doubt:

...the only information I've heard about these are at the welcome to my classroom evening at the beginning of the year. I haven't heard how these pods work at any other time and feel very uneducated (and somewhat skeptical [*sic*]) about the learning that occurs in the pods.

It is clear that the school leadership felt a tension between their overall aim of moving education in a new direction and the negativity which may or may not be dominating school-gate discussions. With the emergence of media articles reporting that some principals and school communities remain sceptical of the “Ministry’s idea of how students should learn” (Walters, 2015), it is not difficult to understand the school’s reluctance to admit the direction they were taking. With an enormous amount of capital already invested at a national level - for many schools, the buildings are already built - the challenge that remains for schools is how to respond when educating the community about an apparent paradigm shift. This responsibility could be solely that of the individual school, however, the

onus may also rest with the funders, the Ministry, and the philosophical drivers, consultants and thought leaders.

Change as an Iterative Process

This theme examines the dynamics of iterative change at the case study school and how a lack of clarity about MLP contributes to feelings amongst teachers of a never-ending change process. Driven by a belief that learning for the future is largely unknown and undeterminable, it did not appear to be clear to teachers and leaders at the case study school what, exactly, they were preparing students for. This was compounded by a reported lack of clarity from the leadership around the school's vision. An uncertainty around what actually constituted MLP contributed to creating a lack of common ground between staff, students and the wider community. This then led to a feeling amongst teachers of never quite arriving at the desired end result. Coined by Blackmore et al. (2011b), "serial redesign" refers to the "constant evaluation and revision of curriculum, pedagogical practices and assessment" (p. 13), and is germane when reflecting on how space and practice reflexively impact on each other within MLE.

As schools are mandated to prepare students for the future, the discourse around what this future will look like – and therefore the school's role in preparing students for that future – has caused distinct uncertainty amongst staff at the school. One school leader's justification, based on potentially flawed research (Old, 2015), that there will be "jobs that haven't even been thought of and there'll be things that are happening now that would be redundant," perpetuates a nebulous foundation for what knowledge, skills and attributes are necessary for the future. Although another leader recognised "we have a responsibility to prepare them for whatever the future may hold, as best we can, with what we know," it was clear that there was doubt from teachers – both regarding the unknown future and the necessity for them to prepare their students for it. One teacher questioned the rhetoric: "it's hard to say what the future will be,

because we keep saying...children learning flexibly and collaboratively and digitally...as the way of the future. But, how do we really know?"

Compounding this uncertainty was the lack of clarity that participants reported around the school's vision for MLP. An interviewed teacher stated, "I actually don't truly know the vision of the school. I don't actually know where they want it to go," and indicated that this made it "hard for it to be clear in what you're doing." Similarly, another teacher identified "a lack of clear vision," while a third suggested the school did not have "a clear definition." School leaders admitted that, although there may have been a lack of direction, this lack of clarity had to do with their own understanding of modern learning. One leader's interpretation of the vision, "that it's evolving," paralleled another's thoughts that "it's still really very much developing...we're still kind of figuring out what we're doing and where we're going with it." Coupled with another senior leader's comment about "not biting off more than we can chew," it is not hard to see how the lack of a shared vision created ambiguity for the community.

It is possible that this confusion was associated with jargon – what, exactly, is Modern Learning Practice? As the literature review for this research study discussed, there is no universally agreed definition of MLE or the practices that they are espoused to facilitate. Participants in this study also reported confusion about the definition of MLP – both in the survey responses (see Table 1 and Table A4 in Appendix A) and throughout the interviews. One teacher alluded to the idea that the community of the school could, in fact, come to consensus about their definition of MLP:

It is hard to really know where to go and what to do when everyone's opinions of what MLE and MLP can be so different as it is not a 'one size fits all' concept. I think there needs to be more discussion on what is actually means.

However, other staff were somewhat more forgiving, in that they felt that the broad nature of MLP as a concept meant that they would never really know the true definition. One teacher queried, "is there one clear definition?," while a school leader considered "the more I know about it, the more I realise I don't know," and another teacher suggested, "I have

also considered it's maybe because the answer's not out there.” The underlying suggestion within these and other responses was that, in fact, they *cannot* know:

...we don't profess to have all the answers (School leader)

...there's no way that your ideas around what modern learning might be can stay static. Because they're constantly evolving and changing (School leader)

...obviously, there is no be-all and end-all of modern learning environments and modern learning practice (Teacher)

At a busy, apparently successful school such as this one, the possible ramifications of the absence of collective understanding were initially hard to pinpoint. However, the lack of common ground that it generated amongst staff, students and the wider community suggested that the intention of the shift may have missed its mark. The lack of clarity in vision and definition may have caused survey responses from students suggesting that they did not understand why the changes had been taking place at the school. For example: “I actually don't know much about why they are teaching differently,” “What difference would there be if we were in normal single classrooms?” and “when will this start exactly?” Similarly, the lack of vision and definition may have contributed to parents’ responses which questioned the costs and benefits of the change:

I am nervous that our children are being used as guinea pigs for a new teaching philosophy [*sic*] that has not been well syndicated with parents.

Change is good but it's also important to review whether the changes have achieved the specific goals that they were designed for. With so much change going on it's difficult to attribute success or failure to anything in particular.

My daughter is in a separate class this year vs. a pod last year. She tells me it feels and acts no differently. You could take this comment both ways. But it does beg the question ‘what are the real benefits then and are they being delivered?’

A crucial consequence resulting from the ambiguity is how the lack of common ground amongst the staff impacted on the teaching and learning happening in the spaces. Although one of the teachers “assumes” what she was doing in class was “right,” due to being “supported,” she also

articulated that, “because [the vision’s] maybe not so clear, you know, there are some risks that you're not willing to take.” As well as affecting some teachers’ confidence to try new things, the state of serial redesign was seen by other teachers as “exhausting” and not “fair.” Yet another teacher’s survey response suggested “teaching and learning in a MLE involves a lot of retraining/trial and error/teaching routines,” and questioned “the amount of effort vs the outcome?” Significantly, this view was backed by a senior leader, who maintained that if teachers are reflecting “every minute of every day, they’ll burn out, really quickly.”

That being said, it is difficult to see how serial redesign can be avoided. With the MOE re-branding learning spaces, educational jargon being bandied about and aspirational yet possibly rhetorical futures scaffolded for this generation, it is not surprising that teachers wonder if they have to “constantly reinvent the wheel to be constantly innovative?” (Teacher)

The Origin of Modern Learning

The next theme is inextricably linked to the previous theme as it maps a pervading question from participants about where the modern learning phenomenon originated and an expressed desire for empirical evidence to support its implementation. There was a perceived pressure from the school leadership, the wider educational community and national and international thought leadership to produce an *ideal* teaching and learning environment. This ideal appears to have been perceived as centering around those things *showy, visible, or tangible*.

Similar to and potentially the source of their feelings of futility in trying to define MLP, participants reported a lack of understanding about the origin of the phenomenon. From a parent’s survey response, “I am not sure why there are pods, so [I] need to learn more about why these were introduced [*sic*],” to a leader’s series of questions: “Why did it come about? Why did it come about? Why was it, yeah, why? Cause it seemed to happen all of a sudden, you know what I mean? It did seem to happen all of a sudden,” it was apparent that the source of modern

learning was being questioned by the adult participants in the study. Two of the teachers interviewed noted that they had undertaken some informal, independent research to discover more about the phenomenon, but without particular success:

I found it quite hard to find, independently find things...Why are we doing this, if I can't Google it?

And so I've kind of found that I've not really researched into it, because I don't really get the answer that I want. But then, I have also considered it's maybe because the answer's not out there.

One school leader conceded that “there's no one person that's a guru in modern learning and you can't go to, you know, one book that says 'This is modern learning and this is how you do it.'” Another teacher, rather more cynically, suspected “modern learning environments are driven by a philosophy or an ideology that initiated with someone beyond the day-to-day classroom practice” and a third teacher surmised in a survey response that “the government thinks it is a great idea even though it was in vogue 30 years ago before they changed their minds and went back to single cells.”

Again, the interpretations of staff and parents on where or how modern learning developed, although interesting, are not particularly compelling until they are juxtaposed with other responses from participants which indicated that they wanted evidence that this particular educational movement would work. Although a teacher indicated in their survey response that one purpose of MLP was to “utilise evidenced-based teaching practices (what research indicates works for learners),” a school leader admitted “there isn't much” evidence “to show that this even works.” Many more respondents indicated a desire to see evidence that a shift to MLP is actually better for learners. A teacher interviewee asked, “Well, have they done research? To see if it actually does work?” While another suggested quantitative findings could provide a level of reassurance, “I'm a scientist, where's the scientific background? Show me the numbers, why is this the best way for kids to learn?” Even respondents who were apparently more convinced of the purpose and outcomes of MLP suggested that evidence would help the transition move forward:

I'm really interested to see some evidence that it is making a shift. Because, I mean, I've got my hunch. And I believe it will, but...I want to see the evidence about it. (School leader)

In the absence of research-based evidence, school leaders granted that there were other people of influence who assisted them in committing to the shift:

...these sorts of ideas and thinking was [*sic*] promoted by people who were, kind of, you know, future thinkers and leaders in their fields...I've been, I guess, privileged in some cases to...hear people speak, or to see presentations in my role...as a school leader

...there are lots of influences. And you have to go back to the point that I made around the fact that there's no one person that's a guru in modern learning and you can't go to...one book that says 'This is modern learning and this is how you do it.' So, you have to break it down into its parts. And when you do that, there are lots and lots of people, both internationally and within New Zealand, who are influential.

Anecdotal evidence was also reported to have been used – by the Ministry of Education and the school leadership, with support from educational consultants and thought leaders – to justify the shift. According to participants, these best-practice exemplars generally represented the tangible elements of teaching and learning in MLE (Bisset, 2014; Blackmore, 2011a). One teacher referred to the leadership's vision appearing to be “based on appearance rather than results” while another suggested that the initial introduction to MLP was “what we saw in the videos,” and imagined that “it just can't be this sort of idealistic view that there's bean bags.” Another interviewed teacher assumed that the leadership wanted “kids not at desks, is I suppose is what they want,” while yet another teacher elaborated on this in the survey when they requested, “I wish I could see more of the 'behind the scenes' rather than the flashy stuff,” and a fifth teacher highlighted the messages encountered in seminars on modern learning, “it's kind of like just the showy, ‘Oh, look. Modern Learning Environments are so great. You should do it.’”

These subliminal references to a tangible ideal that is both visible and showy add yet another layer to the complexity of how this phenomenon is perceived. The impression that teachers have gotten, that they have an

ideal to live up to in terms of how MLE and MLP look – be it from the Ministry’s ILE website which contains beautifully constructed images and videos of purpose-built spaces while maintaining, “all students deserve to be taught in these new innovative learning spaces, and benefit from new teaching methods,”(NZ MOE, 2015d) or from exemplar schools, via the leadership’s approval – increases the pressure the teachers felt to perform in particular ways. One teacher’s analogy of a sea vessel is quite pertinent here:

I don't necessarily think that those that are steering the ship have always had a clear map of where it is heading and it tended to be a little bit too influenced by ideas and forces beyond the school.

During one interview, a teacher conceded that the leadership “have wider things putting pressures on them, as well,” though maintained there was still a “real push from the management” and thought “there's that ideal [that] is that carrot - that thing that's been dangling out to, this is where we want to be.” With reference to that pressure, one school leader claimed that the role of the leaders was “to be the ones that ask the questions, the challenges around what alternatives could have been used” in an effort to prompt change. However, another teacher reflected that those questions could feel like challenges; they “can sometimes have that connotation of, ‘But I think that you’re wrong.’” Rather than encouraging teachers to engage with the process, questions from the leadership, as one teacher reported, “‘Wouldn’t it be great if it was happening across all subjects, with all the kids, with the whole pod?’” as well as comments riddled with inherent expectation further add to that sense of a not-yet-achieved ideal:

Yeah, certainly go and have a look and listen and read and find out what's possible, and open your eyes. But then, actually, you get cracking and do it and create your own sort of soft systems or whatever it takes to make it happen. (School leader)

This raises a series of general questions regarding the legitimacy of modern learning as a 21st century paradigm shift – Where did this phenomenon come from? Where is the research to support its backing? Who is influencing the shift? What is the ideal and when will teachers no longer feel pressure to attain it? Collectively, these questions could be regarded simply as a flaw of the leadership in effectively navigating a

successful change management process at the school; however, I believe that the powerful role of the MOE and educational consultants cannot be disregarded in assisting to create a culture of visible, tangible, showy ideals that are used to represent quality teaching and learning for all students. Further effects of this pressure are explored more deeply in the following theme, “The fallacy of ‘modern.’”

The Fallacy of “Modern”

Linked to feelings of uncertainty and pressure from school leadership and thought leadership influences, this theme examines a thread of understanding from participants that what was expected to be implemented at the school was not entirely new. According to the school’s definition of FREDL, utilising a teacher’s professional judgement is an important key to being flexible and responsive. However, according to participants, this skill was seen as not, actually, “modern” at all and brings into question the use of jargon to evoke reform. As the potential to re-configure spaces in MLE continues to allow traditional teaching methods to be used, the flexibility of the environment also contributes to this fallacy.

Several participants observed that the old way of teaching and learning was not, in fact, that flawed. One school leader maintained that “the traditional, single-cell way of teaching and learning wasn’t ineffective and isn’t ineffective for many kids,” and another acknowledged that “we’ve got a lot of really awesome teachers that could do that brilliantly in a single-cell classroom, and do.” In fact, the leader goes on to say, “modern learning practice, in my ideas, encompasses everything that pretty much happens in a classroom.” This point is echoed in a teacher’s survey response which argued, “Quality deep learning can happen in a range of environments, modern learning environments are not a guarantee that modern learning practice is happening.” These statements, which recognised the value of quality teaching regardless of the environment, further illuminate the confusion and ambiguity of the purpose, definition and necessity for the shift to MLP.

Participants also reported a realisation that MLP is not new. The idiomatic expression “don’t throw the baby out with the bathwater” was used by two senior leaders and one experienced teacher to describe this fallacy of “modern.” Although one of the leaders suggested that what learners need is different than what they needed in the past, they also maintained that MLP is “not rocket science, it’s nothing particularly new.” Similarly, another member of the leadership team thought “that, actually, really good deliberate acts of teaching...hasn’t changed,” and a teacher recognised that “actually, everything still works.” If this is the case, then, why the pressure for an ideal, as identified in “The Origin of Modern Learning?” A teacher’s provocative question, “Hang on, have we been doing it all wrong?” illustrates the mixed message they believed they were receiving.

Flexible and responsive practices are, however, exactly what the leadership of this school appeared to desire for their learning environments – where teachers use their qualified and experienced professional judgment to provide the most effective learning experiences to inspire, engage and facilitate learners to achieve. For example, one school leader recognised that flexible and responsive “might well mean that there’s one teacher with 30 kids and that group of teachers has decided, using their own professional judgments, to say that that’s the best way to do it.” This statement, which mirrors the dichotomy outlined in the first theme, links flexible and responsive directly to the professional judgment of the teacher. Instead of the pressure for an ideal that some teachers perceived, it could well be that the leadership was, indeed, “trusting teachers and...their ability to make good professional decisions” (School leader). Certainly, another leader referred to MLP as allowing “for more professional discretion in terms of the best way to...deliver a learning programme to a group of students.” One teacher readily acknowledged this as the learning around MLP:

I think you've got to find what works for you...That's the learning. What would work best for this situation...I think that practice was always happening. Now, I just think we're more consciously being made to think about it.

Similarly, another teacher suggested “it's kind of, taking the good with the bad and sort of trying to mix it into your own thing that works for you.” Both teachers’ assertions demonstrate the power of the leadership’s choice to utilise the terminology flexible and responsive in their definition of MLP.

However, one leader’s survey response qualified this stance by indicating “there is currently large variation in the teaching and learning that happens in pods” and the “degree to which teaching and learning is truly responsive and flexible is significantly impacted by the teachers working in the environments.” Again, the inconsistency of this statement points to a misinterpretation of language. Do the terms flexible and responsive actually represent a teacher’s ability to use their professional judgement to flex, yield, stretch and bend to accommodate all learners? Or are they being used to define an ideal that teachers are feeling pressured to achieve, representing a set of practices that are, in fact, far more prescriptive and replicable? A teacher’s response to the Ministry’s shift to ILE from MLE encapsulated this possible paradox quite well:

My role, I would have thought, would be to respond to the needs and interests of the students at any one time. And whether that means re-working, tweaking, modifying a unit that has worked before, on a subject that they're passionately interested in, and then someone comes along and says, 'Oh, no. That's not innovative, you did it last time,' I think we're missing the point of teaching to the interests of the kids.

Therefore, is modern learning a case of the emperor’s new clothes? The data would suggest that this may actually be the case. The fallacy of “modern” then potentially contributes to a reluctance by teachers to fully engage with the process.

Teacher Reluctance

In light of previous themes, it is not surprising that interviews with teachers uncovered a reluctance to engage with the shift to modern learning. According to participants, this reluctance emanates from a sense that the change was mandated from the top-down, along with an attempt to force conformity or replicability within their classrooms. This then contributed to

a feeling of loss of autonomy and professionalism, both of which, I would argue, are key to full engagement with change.

Evidence of teacher reluctance to engage with the shift was immediately apparent when interviewing both teachers and school leaders. Some teachers indicated, as one did, that their level of engagement with MLP “has dropped,” whereas another was more forthright in their opinion: “So has, so have other people done research, and what have they come up with? That [MLP is] absolutely truly wonderful?...No, I don't know that I think it's truly wonderful.”

Another teacher reported that although “I'm all for it as long as it's done right or it's done well and it's done for the right reasons,” some teachers still were not “won over on the whole concept,” while a different teacher admitted that “I wanna do what you're saying, but we're not gonna do it straight away.” The school leaders readily acknowledged this resistance, with one admitting that “we have a...a sceptical little group, still. Which are yet to be convinced of [MLP's] value,” while another went so far as to say that “some of our quality teachers are the ones that are potentially most resistant to modern, flexible, responsive, collaborative environments.” I can not help but wonder if the misuse of terminology contributes to this perceived resistance – if the “distractions” of the jargon (Hattie, 2015a) misdirects teachers' focus from flexible, responsive practice to a sense of “reform du jour” (Wagner, 2008) or “initiative-itis” (M. Fullan, personal communication, March 10, 2015) – therefore, impacting teachers' engagement with the shift.

Respondents reported that as a result of the change mandated from the top, with expectations to conform to or replicate an amorphous ideal, there was a feeling of loss of autonomy that directly affected their engagement with the shift. First, a well-organised structure, as indicated earlier, appeared to limit the timetable and therefore the autonomy of individual teachers and their class groups. One teacher noted that “in a single cell you can do exactly what you want,” while another teacher admitted that

loss of autonomy as a professional was “a real danger” and they resented “the lack of freedom and free time and that, those teachable moments, you know?” A teacher’s limited ability to respond, in the moment, to the specific needs of a group of learners in MLE, was acknowledged by other teachers:

...last year when we utilised a shared math timetable with a roving teacher and teachers teaching in shared space - we found that we were less able to be flexible

My level of engagement with modern learning practice, or philosophy around it, has dropped. Because I've been given less autonomy, less respect as a classroom teacher for my practice, and more direction on how things should happen

As well as restricting the structure and timing of the teaching and learning environment, the loss of autonomy that teachers reported also reflected their reluctance to be told what to do:

It's not nice to be restricted and told you have to be doing things this way.

...it's that disconnect between criticising a whole-class teaching model, not suiting all students in a classroom, but now promoting a whole-school teaching model, where all teachers are expected to follow the same thing at the same time, in much the same that we criticise it happening in the classroom.

Although the flexibility of space and practice has been upheld as a major tenet of this educational endeavour, the perceptions of teachers – that the adoption of MLP may actually be less flexible in terms of time and the ability to respond to individual students’ needs – provides further complexity in understanding the true purpose of modern learning. Coupled with the adoption of FREDL by the school and its emphasis on the responsive behaviours of teachers, this ambiguity simply adds to the confusion for teachers about whose professional judgment should be upheld when making decisions about teaching and learning in MLE. One teacher maintained that there was “a disconnect between what we want the students to do and the philosophy around that, and the way adults are treated or not as professionals” while another questioned, “do I need management dictating how I should be running everything...or checking up how collaborative and how modern learning I'm being, if my kids are

succeeding?” A third teacher summed up the quandry succinctly, “it ends up in this really sort of grey area within MLP...how much of it is management input? How much of it is it teacher input?”

This tension for teachers – between the desire for autonomy and a larger cultural preoccupation with performativity (Codd, 2005) – is not unique to the case study school, nor New Zealand as a country. However, it does further complicate an already complex arena of discourse. If MLE were built to provide open, flexible and responsive spaces and practices, leveraged on the reflexive decision making capacity of experienced teachers, then why do some teachers feel more limited, more managed, less autonomous and therefore, less professional? Codd’s (2005) notion of a “culture of professionalism” suggests that a more open-ended approach to teaching and curriculum design will actually fuel more innovative practices through the development of reflexive skills such as imagination and critical thinking (p. 202). The responses from the teachers at this school indicate that they felt they were more of what Codd (2005) refers to as a “managed professional” – where “performativity replaces the critical reflection and professional judgement of the autonomous professional” (p. 202). This, in turn, appears to have affected their overall engagement with the shift:

...it's completely opposite to what we're trying to do for children in giving them ownership of their learning so that they engage more. We're taking it away from teachers so the end result is that they're engaging less.

Student-centric vs. Teacher-centric Pedagogies

This theme charts conflicting reports – interwoven with the confusing jargon-laced definitions of MLE and MLP - between the intentional and the actual pedagogies adopted in the transition to MLP. Throughout the survey and interview responses, there was an overarching synergy of perceptions that the purpose of building open, flexible and connected learning spaces was to promote greater student-centred, personalised, collaborative learning experiences. In direct contradiction to this philosophical stance, however, both teachers and students alike reported

examples of *teacher control* in the classroom with regards to *how*, *where* and *what* students are to learn.

The benefit of student-centred learning pedagogies was repeatedly referred to in both survey responses and interviews. While one school leader referred to MLP as putting “the child at the heart of the matter,” a teacher stated:

...the whole thing is just all based around students. It's all based around them as learners and what you can do to best benefit them... It's not because it looks pretty, it's because you're doing it to best benefit students and how they need to learn.

Additionally, parents suggested that MLE are “child centred learning environment[s]” and in the context of MLP, “all children’s needs are catered for.” Students also seemed to appreciate the intention of student-centred practices, with one identifying in their survey response, “its [*sic*] supposed to be more modern and more online so that its [*sic*] more engaging.”

Although participants discussed all aspects of the student-centred pedagogical spectrum, student choice was frequently mentioned across stakeholder groups. This generally referred to choice around where to work:

You have an independent choice whether to work in your classroom or in the shared space. (Student)

Students are able to select areas to work in which they feel are more comfortable and suitable for the kind of learning that is taking place. (Teacher)

...[the teacher] lets you do your work like in here, or in the class or in the shared space. (Student)

There were also multiple references to how and when students could learn in the spaces. A teacher indicated in the survey that MLP provides “opportunities for students to experience a variety of teaching and learning styles, and choose/find the one that works best for them,” a support staff indicated that the physical environment “allows students to choose how

and whom they work with” and a student mentioned that “learners chose [*sic*] how to learn.”

Regarding what students learn, personalised learning – driven from the passions and interests of the learner as well as their individualised needs – was also mentioned by respondents. For example, one parent indicated “children are able to personalise their learning [*sic*] therefore are more engaged,” while another suggested that MLP allows for a “personalised learning plan for each child according to their ability not age or level.” Several teachers’ survey comments agreed: “true MLP (although the idea is not that 'modern') should aim to be as close to an IEP for each child as possible,” “learning is tailored to students strengths, needs and interests” and parents need to “be included from the beginning with personalised learning of the child.” When interviewed, one teacher referred to their role in the personalisation of learning as “twisting the curriculum as much as possible to meet the needs and interests of the kids.”

These responses represent synergy around the student-centred purposes of MLE and MLP; though, when delved into, some participants’ responses actually indicated teacher behaviours that directly contradict a student-centred philosophical stance. Although research indicates that teachers with constructivist beliefs are more likely to use student-centred pedagogies in their classroom, Ertmer et al. (2012) suggest that there is a disparity between teachers’ espoused beliefs and the reality of their enacted beliefs. Participant responses across the data set illustrate this tension, as well.

Within the survey responses, some students highlighted teacher control when discussing the flexibility of MLE and student choice about where to learn. For example, one student reflected, “the bad thing is we don’t really move around other classes in pod much witch [*sic*] i [*sic*] think is a shame,” while another attempted to explain how teachers limit movement around the pod, “the teach[er] isn't really into the whole, just go out there if you need too. It's always ‘ok, you and you and you’ so only about 6-8 people

actually get to leave.” Moreover, one student hinted that restrictions on their choice to learn where they want is a teacher-driven decision, rather than a student-driven choice: “Its [*sic*] not really organised in the purpose of a kid for me (maybe a teacher) as some subjects I would really like to work there but I can't (sometimes).”

Several teachers admitted to feeling hesitant to allow student choice. While one teacher accepted “kids choosing who they could work with would be great, if they could do it and not be off-task,” another recognised that students “don't always choose the best place.” However, a third teacher asserted “there's times when students have choices, but there's times when you do what you have to do,” “once they show me they can do their learning...sometimes they can have choice, sometimes it's what I say goes” and “the students have to do what they've been asked to do, you know?”

There were multiple teacher responses to the tension between teacher control and student choice. One response was the introduction of a License to Learn strategy by teachers. As a result of their perception of “the madness of the shared space, at times” (Teacher), the License to Learn provided teacher-driven behavioural expectations such as how many students could work together at one time, appropriate ways of communicating and moving through the space to ensure as little distraction to others as possible. However, student reports indicated that the teachers use the license as a reward – only those students who exhibit certain behaviours are granted the license and therefore, are given the choice about where to learn. The frustration that this restriction builds was evident through comments from two groups of students:

S1: Yeah. You can't really go where you want when you want.

S2: Yeah, you're not allowed.

S3: Cause the teachers still control it

S1: Because they've made that rule, people probably can't learn as well as they should. They get stuck in their classrooms.

S2: And you have to stay in the same -

S1: There's basically no point of putting in a shared space if they do that.

S2: Exactly.

I: Ok. So, tell me a bit about this License to Learn Elsewhere, because -

S3: No one can move around.

S4: There's only like nine people in our class who have them.

S2: So, they issue them out if you always get your work done and always stay in your same spot and never talk.

Another response to this dilemma was to provide more scope for student choice as to how and when students learn; one year 8 student elaborated on the blocks of time in which they were granted a level of freedom to select how, when and where to do their learning:

The teachers give us a bit of time to do our own work which is called S.M.L. (self managed learning) so we work in the shared space and also for some reading and writing tasks we work in the shared space but other than that we mostly work in our classes. (Student)

A focus group of students also reflected on “self-directed learning”:

S1: So, you gotta pick what you do each day, which was actually quite fun. That actually made it enjoyable.

I: So, you got to choose, out of the things [the teacher] set, what you learned?

S2: Yeah, so [the teacher] set stuff, but you were allowed to like pick what you felt like doing or what you wanted to do in that set task.

In the same vein, other students referred to “independent time,” where they got “to do what [the teacher] sets when you want.” However, they clarified that independent time was “for things that have been set for us. We don't use it for things that we want to learn.”

The tension around choosing where, how or when to learn and choosing what to learn – was highlighted by a range of participants. In the survey, one teacher suggested “learners have some discretion over where, what,

and when to learn but not completely what to learn (they don't know what they don't know).” This stance was supported by a school leader, who indicated that student-centred pedagogies built around the interests of the students are less important, in their mind, than individuals achieving success as learners:

And whether [the students have] determined what it is and why or the teacher's determined what it is and why, isn't so important to me, as long as it's the right what it is and why and the kid can tell you why. Then, I think, they've got far more chance of succeeding. 'Cause they get it.

Though students were aware of teacher control regarding what they learn, some students recognised that being allowed to choose their learning pathways might be beneficial, such as:

S1: We'd get it done because we'd all be able to have a say in it, like, how we present it, not just Google Docs or writing it down in a poster.

S2: We'd get more choice so there's stuff that interests us, and that would be easier to write about [than] if she gives us a topic that we have absolutely no idea about.

S3: ...we should be able to, [to] make sure that we can learn more stuff. So, we can choose our own stuff we want to learn. So, we can learn more stuff differently, different stuff.

S1: I'm not sure about me, but it would make school probably a lot funner for them because they would be able to do, they'd still have to do the work and everything, but they'd be able to choose what they wanted to do it on. Like, if they were interested in something, they could choose to do like a presentation about it or like a movie or something.

When the idea of choosing what to learn was broached, both teachers and students alike showed reluctance, an implicit admission that the teacher's role is still to control the learning experience:

I: Does that happen? Do you have to do things that don't interest you?

S1: Sometimes, because [the teacher] doesn't give you work according to your interests. [The teacher] just sets work.

S2: You've got to do it that exact way, exactly how [the teacher] wants it.

We don't get very much time to manage ourself because almost all of the lessons are organised by a teacher. (Student survey response)

I: So, do you have conversations with your teacher or any of the other teachers in the pod, where they're...having a conversation with you about how you learn?

S1: No, the teachers don't even want our opinion on how, on what we want to do.

S2: Yeah, they just teach the way they've been taught.

Although one leader maintained “we've refined our approach to what a teacher's role is and we're seeing ourselves far more as a facilitator as opposed to being 'the teacher,'” teacher responses indicated that this theoretical shift has yet to actually happen, with one asserting “I don't think life is all about choice...we seem to be setting these kids up that you can decide how and when and where you do things.”

The emphasis on teacher-centred priorities dominating the shift to MLP at the case study school, rather than student-centred priorities, is further examined in the following theme, regarding teacher collaboration.

Teacher Collaboration to Improve Practice

This theme explores how participants interpret teacher collaboration, then charts how that plays out in MLE and therefore what impact it has on the transition to MLP at the school. Throughout the study, teacher collaboration was seen by participants as a mechanism for providing more consistent, equitable, strengths-based effective teaching, through: transparency and de-privatisation, accountability, shared ideas and co-teaching. While an emphasis on collaboration appeared to provide reassurance for some teachers who like to know that they are “on the right track,” it provided others with a feeling of frustration and a sense of mediocrity. Although all teachers indicated that they were comfortable sharing ideas and resources through collaborative planning, it appeared that this did not allow for a sufficient level of de-privatisation and peer accountability to support the leadership's overall aim of improving individual teachers' practice.

As discussed throughout the literature, collaboration is referred to as a way to establish consistency in teacher practice. School leaders at the case study site referred to teacher collaboration as providing more *equity* for students, with one suggesting that “every student that comes to [our school] - regardless of who...they end up being taught by, they should all get equal opportunity and access to high-quality teaching and learning.” Another leader referred to the *consistency* that teacher collaboration can provide: “I would like, with MLP, any kid coming into our school, to be getting the same depth and breadth of learning, regardless of what classroom they're in or what pod they're in. I'd like there to be more consistency.” In terms of providing this consistency of practice for students and their families, a third school leader also proposed they “might find that there would be less conversations [from parents] about who might be a child's teacher, and, so fewer conversations around that and more about what, what they are accessing and what they are achieving.”

Although respondents recognised the school's ambition for teacher collaboration to happen as part of MLP, their comments tended to describe the purpose as a *strengths-based* or *collective wisdom* approach. For example, survey responses from parents suggested that collaboration enables a “greater pool of ideas and expertise,” and that “teachers bring together their strengths and also manage their teaching to create an ideal learning environment.” This is mirrored in student survey responses, which suggested the purpose of teacher collaboration is to “feel that the teachers are on the same page” and that they are “involved with working together with each other to create a better learning environment.” A focus group participant suggested how a strengths-based approach supported learning from a student's perspective: “you get the teachers that like know more about the topic to teach you about the topic, than your original teacher.”

Teacher responses showed that they also appreciate the benefit collective wisdom can have on improving learning for students, with one pointing out,

...why restrict students...to one teacher that their level of expertise goes so far, when there's...easily students within this team that need to go further... it's like putting a brick on their head. It's like you stop them from going anywhere.

Likewise, another saw collaboration as essential, stating, “collaborative planning, collaboratively working together for the benefit of the children, collaboratively sharing out the groups...that's the way it should be - if you have a strength in taking the high end in writing, then take it.”

Much like Hargreaves and Fullan’s (2012) “continuum of collaboration,” this emphasis on maximising teachers’ strengths and therefore minimising their weaknesses flows through to the concept of collaborating through sharing ideas, a practice that a teacher interviewee regarded as “fabulous,” a practice they “really like.” The teacher went on to explain that it provides “a wider range of ideas if there's two of us coming up with...ideas that you can put into a unit.” A school leader described this practice of “a little bit of the village raising the child type of scenario” as “really efficient in terms of workload, as well as effective in terms of the outcomes that we’re looking for.”

In line with the literature around teacher collaboration in open, shared spaces, many respondents also alluded to the transparency that MLE provide. This de-privatisation (Osborne, 2013) is seen to allow teachers first-hand access to their colleagues’ practice. One relatively new teacher discussed how it contributes: “it opens your eyes to other ways of doing stuff. And I think if you're always by yourself then you never get to see it.” Another teacher, who admitted to engaging in collaborative planning with colleagues only “in its broadest sense,” conceded that MLE allow for “a greater degree of reflection because you can see what other teachers are doing.” Whereas, a school leader alluded to transparency when discussing teacher collaboration, indicating that it provokes “incidental conversations...about kids and learning and things they might have seen in the room next door.” Similarly, a third teacher suggested that the teachers in the pods “can all see what each other’s doing,” though confessed this “could be positive and negative.”

A different school leader, however, forcefully indicated the value of de-privatisation by stating, “you can't underestimate the impact of teachers watching teachers, just incidentally, throughout the day.” This interviewee went on further to say that transparency of practice may, in fact, cause teachers to consciously reflect upon and strive to improve their practice because of the feeling of being watched:

...even a wee bit of, you know, teacher pride coming through, too. 'I'm gonna really, you know, pull out stops to make sure this really works, because my peers are gonna see it, the other kids in the pod are gonna see it. I want them to think, you know, I'm a good practitioner.' Possibly.

This de-privatisation coincides, for some, with a sense of peer accountability. One school leader suggested that in these contexts teachers “hold each other to account,” while a survey response from a teacher indicated that these environments promote “teachers scaffolding teachers.” An interviewed teacher elaborated on this by explaining:

It means you have to be organised. It means you have to, you know, if you say that you're going to do something or if you've been given a responsibility for the team, or there's some data that you have to share, you have to do it.

Another teacher, who did not actively collaborate with colleagues within a single-cell classroom at the time of the study, suggested that collaborative assessment – marking students' work with another teacher – is essential to keeping teachers accountable. This teacher indicated that practitioners not only “should be absolutely working together to see that you're on the same wavelength. But, also, that should be across the school as well.” This open sharing of practice appears to provide accountability in terms of checking that teachers are doing what they should, as well as reassuring some teachers that they are on the right track. Where a relatively new teacher found that “particularly as a beginning teacher, I really valued having people so nearby, and sharing things with me,” a more experienced teacher acknowledged that she needs “other people to reassure me that, 'Yeah, you're on the right track there.’”

This need for reassurance is not consistent across the school, however. While some teachers appeared to relish the opportunity to work closely with their peers, others expressed feelings of frustration. One teacher reflected that “pulling together four brains to get something done can be just a little bit tiresome and difficult,” and, “if no one has a clear idea, you just go round and round in circles.” Another teacher spoke of “trying to keep staff happy” when planning collaboratively, while still catering for the needs of the students, maintaining it is “trying to be all things to all people. And so it's hitting middle ground the whole time. It's almost like teaching to the middle of the class.” The sense of mediocrity, which this teacher alluded to, reverberates back to the leadership’s mandate that MLP – or FREDL – must incorporate collaborative teaching, and contributes to a feeling of pressure on teachers, a resulting sense of loss of autonomy, and therefore, a corresponding lack of engagement with the shift to modern learning at the school.

It is apparent that the school leadership team was fully aware of these frustrations. One team member accepted that teachers may have to “let things go, let some of their pet loves go...for the betterment of the team,” while another conceded that teachers “probably view [collaboration] as supporting others.” These admissions only suggest that the leadership recognised the challenges teachers experience around de-privatised, collaborative practice. Their aim – to improve all teacher practice across the school – appeared to remain steadfast. As a response to those capable teachers who see collaboration as a one-sided support system, a school leader’s challenge to them was, “how can they be part of ensuring that all teachers at this school are at least as effective as they are?”

Comments like these suggest that the purpose of teacher collaboration is to ensure that all teachers in a space are performing to a certain standard. The school leader from above went on to note:

It's a change of emphasis, really - from a strong emphasis on individual accountability, individual teacher quality...where the focus was on an individual teacher achieving certain standards...to actually saying, 'Well, now, as teams of teachers, how can you use those

strengths and weaknesses and recognise that we aren't all as good as each other in everything we do. How can we use that to support?

This suggestion, that the teachers in the school “aren't all as good as each other,” indicates the leadership's desire to improve the practice of all the teachers in the school. Another leader reinforced the idea of a collaboration continuum – with shared ideas at one end and fully collaborative and de-privatised teaching on the other: “some of our teachers on a continuum are still sort of at the collaborating/planning together but still delivering independently.” However, it was made clear that these practices are not far enough along the continuum to satisfy the leadership's view of collaboration:

[They say] 'Oh, yeah, yeah. We're collaborating,' cause they would get together and plan a unit together. So that was her idea of what collaboration was, whereas that, to me, would be just the very start of what collaboration is.

Though one parent commented that “the purpose of MLP is to improve teaching practices,” this was not a global assertion explicitly suggested by any other respondent. I believe this possible lack of clarity around the leadership's intention of teacher collaboration may contribute to the confused understanding of the intent and purpose of MLE and MLP at the school.

Reform at the case study school site began with a strong message about the imperative for teacher collaboration – “we had a focus last year on collaboration, particularly around planning - this year it's extended into the delivery” (School leader) – therefore, it is not surprising that teachers feel pressure to conform to the leadership's expectation to plan and deliver programmes in large, flexible spaces. This emphasis, however, may actually cause teachers to focus more on what they are doing – in providing structure for the environment, implementing innovative practices which are seen to be “modern”, and supporting colleagues through collaborative teaching – rather than on what their students are doing.

The Product and Process of Managing Self

In light of the eight previous themes, which, for the most part, address the perspectives and behaviours of teachers, this theme addresses the behaviours of students. Specifically, it illuminates the conflict inherent in defining learner self-management – is “Managing Self” how much work is produced or is it a process of learning? While the literature indicates that self-management, self-direction and self-regulation are all separate concepts (Chee et al., 2011), requiring different sets of skills to prove mastery, when stakeholders at the case study school defined self-management, the data suggest there was a tension between *internal processes* - such as thinking, reflection and improving, and *task completion*. Both were identified as equally important by participants and alluded to with similar frequency in participant responses, provoking the question – is Managing Self, in the context of MLE and MLP, a product or a process?

When asked to speak about the value of learner self-management, participants spoke largely about task completion. In the initial survey, when respondents were asked about self-management skills, many replies focused on task completion. For example, “how much work you get done in a certain amount of time” (Student), “to actually complete the set tasks within the given time frame” (Support staff), and “if you have the ability to manage yourself you are able to complete tasks on time” (Parent). Teachers’ responses to the survey focused on the student’s responsibility to complete work in an independent, or unaided, fashion: “Managing self is about the student taking responsibility for their own learning and the completion of the work,” and “the purpose of managing self to be able to complete tasks and learning activities without prompting from an external source.” One school leader said, “The purpose of managing self is to get tasks completed.” This focus on task completion was further revealed in the interviews, with a school leader suggesting that Managing Self is primarily about producing something, because “if they produce nothing in a writing session, then clearly they haven't really been managing themselves very well.”

Although an interviewed teacher's survey comment about Managing Self included students "knowing what needs to be completed, what behaviour and environment will help to complete it and then what the next step is," the description of both teacher and student classroom behaviours in the interview focused on particular assignments or pieces of work. Learner self-management, according to this teacher, was "always prompting [students] to think, what can you do next?" This included the incidental conversations reported with students, "I can't move you onto the next thing because you know I'm waiting for you to finish this," and when they finish one task, "What can you do next?" The teacher also referred to students' next task as their "next step," reporting this response to fast finishing students:

...they kind of come up to you and go, 'I've finished my word work, I've finished my follow up task'...And I'm like, 'Do something else,' and they're kind of like, 'Oh, yeah.' So, they go and like read a book or they'll buddy read or go onto languages or some word-work stuff.

This emphasis on task completion could be seen as one practitioner's idiosyncratic interpretation of the concept of Managing Self. Focus group students from two other classrooms, however, indicated their belief that task completion was, indeed, the desired behaviour that their teachers wanted to see. This was represented by comments such as, "they didn't care unless you got your work done," "they need to see how much work you've done," and when discussing some students' choice to "look busy" for the benefit of the teacher, "I don't think [the teacher] cares if you look busy...[the teacher] pretty much only cares if there's no work...nothing on time."

Where a large number of responses reflected the belief that Managing Self is a student's ability to manage and complete external tasks, a significant set of responses reflected a wider range of learning skills, including but not exclusive to: setting goals, motivation, reliability, reflection, knowing what is needed and why it is needed. One school leader went so far as to say that learner self-management is about "kids being able to articulate their learning - what it is they're doing and why they're doing it," with an

emphasis on “knowing what it is that you need to know.” Other participants agreed:

It is to understand where one is on the continuum of personal learning development and set realistic next steps required to progress one's own skill set. It is not just working on a task without a teacher to prompt and encourage. (Teacher)

...knowing what you need as a learner (Year 7 student)

...being responsible for their own learning, rather than being 'taught' something (Parent)

...keeping your desk tidy, knowing yourself as a learner, goal setting (Year 8 student)

Alternative definitions of learner self-management indicated that the definition is not clear-cut across the participant group. This is highlighted by a teacher's survey response, which stated “Managing Self is a skill set that can be complex and difficult to master (even for some adults).” The variety of skills associated with Managing Self in participant responses suggest a possible source of this complexity:

Learning to be responsible for self in preparing for class; understanding what is expected in terms of what work needs to be done and asking if unsure; meeting deadlines and expectations; goal setting to achieve this; thinking independently and using initiative to find answers; knowing and using own strengths. (Parent)

Managing self is about being the best you can be in any situation and always looking to improve. It is about attitudes and skills, being open to feedback, being reflective, honest, organised and effective. (School leader)

To become proactive in taking responsibility for one's learning and personal needs in order to acquire the skills needed to eventually move from the structured learning environment to the workplace and ultimately, hopefully, enjoy a happy and successful life. (Support staff)

Students gain the skills necessary to prepare them for a life in which their learning, and the way they operate and organise themselves in every area of their life. These skills underpin all learning in order for students to reach their potential. (Teacher)

Taking ownership of own learning. having the ability to take responsibility for own possessions, workload, learning and actions. (Parent)

Chee et al. (2011) differentiate between self-management and self-monitoring, with the former preoccupied with the management of external tasks and resources, including task completion, and the latter concerned with thinking, reflecting and improving. The literature suggests that both sets of skills fall under the umbrella of Managing Self; therefore, it is not surprising to find responses to the definition of Managing Self span both spheres of interpretation. Within the context of “Managing Self” identified as one of the five key competencies in the New Zealand Curriculum (2007) and the promotion of student-centred pedagogies in MLE, however, it is important that there is synergy around how the skills and competencies, as discussed rhetorically in the literature, are, in fact, translated into practice in a MLE and within MLP. This lack of clarity – either between teachers and students or across class groups within a school – could, potentially, mean that the expectations and efforts of teachers to promote a certain set of skills in their students actually miss their mark. The following theme pursues this line of thought, as it focuses on the tension between teachers’ and students’ roles in developing this competency. In the meantime, however, we will leave the complexity of defining Managing Self with another hanging question from a teacher participant:

How do we know? Or how do they know? I know, when I'm managing myself, and I know when I'm not. From the outside looking in, some would say that I'm not managing myself or some would say that I am.

The Paradox of Scaffolded Self-management

As a result of the tension revealed in the previous theme, this theme explores an incongruence regarding learner self-management. Within responses defining Managing Self, there was significant emphasis from participants on the need for self-management skills to be scaffolded for students. The array of skills associated with this competency - setting goals, making plans, managing projects, self-monitoring behaviours and even completing tasks - appear to be an incidental expectation, rather than an aspect of classroom learning that is explicitly taught. In addition, the use of phrases such as “without help” or “on your own” indicate a parallel belief that if a student requires support, scaffolding or teacher intervention, then they are not actually managing themselves.

Survey responses from parents, such as: “greater focus needs be placed on learning skills - particularly time management. Students need [to be] specifically taught in some of these things,” “time management needs to be taught specifically,” and “more help for the students to understand ways to organise their time might help” suggest that some felt that self-management should be more explicitly taught. Likewise, some staff indicated a similar need for definitive scaffolding, with one teacher suggesting, “in reality, you need to teach these things,” a school leader agreeing, “I do think [self-management] can be taught,” and another leader proposing “there needs to be some tools and ways and scaffolds in which kids can progressively move.” A support staff member was even more precise, commenting that students “need guidance in understanding personal learning strengths and weaknesses and taught strategies in order to achieve.”

There were suggestions from various participants that there is little direct teaching around this competency currently at the school. One teacher noted that, “to some extent, it's the skill set that the students come with,” another suggested “it's not something that you have to actually explicitly go through” and one student's assertion that there were “some people in our class who just can't do work and self-manage properly” all confirm the idea that the success of Managing Self is largely left up to the student.

Another set of responses indicated a concern that the adoption of skills associated with self-management are expected to be acquired through purely incidental processes. This is referred to as children being “left to ‘manage themselves’” (Parent), “left to deal with the consequences” (Parent), or even an expectation that students pick up the necessary skills “by osmosis as they are ‘set free’ in the learning space” (Teacher). Most illuminating are comments by students, who, when asked, discussed the lack of direct teaching of self-management skills:

S1: Like, when someone doesn't get their work done, [the teacher] would say, 'You need to self-manage yourself a bit better.'

S2: But [the teacher] doesn't really say how -

S3: [The teacher] just kind of tells you -

S2: You should.

...if you're a bad self-manager, [the teacher] doesn't like find help for you. [The teacher] doesn't know how, if there's another way to teach you... I think some kids who are not very good at self-managing...if they probably got taught to self-manage and how to manage your own time, they might do a bit better in class.

The expectation by teachers that students should simply figure out how to Manage Self within the context of MLE run concurrently with responses suggesting learner self-management only occurs if students function independently. Examples of this include: “not bein [*sic*] told what to do by a teacher” (Year 7 student), “without intervention from others” (Parent), “without adult help” (Year 8 student), “so the teacher doesnt [*sic*] have to hassle you” (Year 7 student) and “unsupervised” (Parent). Teachers also recognise this expectation. For example, one admitted that “there is only one individual in my class that I prompt into what they're doing because they don't manage themselves,” and another questioned the students' ability to self-manage because “I had to go on about it all the time.” A third teacher described the differences in students in the class, further contributing to the paradox of scaffolded self-management:

For some of them, they are well able to manage themselves and are able to suggest alternative learning pathways, whereas others require step-by-step, 'Thou shalt....' sort of structure in order for them to achieve things. They can still be doing the task, which the teacher sets, but it's not managing themselves.

The inconsistencies highlighted throughout these responses suggest that there is confusion surrounding the definition of the key competency Managing Self and the role of teachers in nurturing related skills in their students. As much of the discourse surrounding MLE and MLP suggests a need for students to self-direct their learning, it seems self-evident that there is significant focus on how learners can be supported to develop this competency. In this study, one teacher reported a personal expectation that students proof-read their work prior to submission. “I would have thought...that you knew that when you handed in work, then it was

proofread. But, anyway, is that a skill that I have to teach?” It is apparent that teachers are uncertain what, in fact, they are responsible for explicitly teaching in these contexts. The final theme of this analysis addresses that specific question – what is it that teachers should be teaching and what are the skills and attributes which students should be achieving in the context of 21st century learning, MLE and MLP?

Traditional v. 21st Century Achievement

The tension between academic achievement – the traditional measure of success in education – and the acquisition of life-long learning competencies is scrutinised in this last theme. When defining achievement, participants consistently indicated a leaning towards the importance of literacy, numeracy and other core learning areas. Although participants recognised that the success of the shift to modern learning can be gauged through increases in student engagement, improved learning processes and the development of 21st century competencies, three concerns were revealed regarding achievement. These included: (a) concerns about how the learning that occurs in MLE relates to the current measurement of academic achievement in New Zealand - National Standards, (b) concerns about whether the structure and emphasis on modern learning practice at intermediate school actually prepares students for their future, and (c) concerns about the quality of the learning – does truly deep, rich learning occur?

Consistently, respondents discussed achievement in MLE as relating to better outcomes for students, particularly focusing on skills that relate to 21st century competencies (21st Century Learning Reference Group, 2014; Ananiadou & Claro, 2009; Chee et al., 2011; Hampson et al., 2012; Shear et al., 2011). Both teachers and school leaders indicated a shift of emphasis from traditional core curriculum areas to skills related to learning and social processes, with many citing the key competencies from the New Zealand Curriculum (2007). One school leader suggested a “broadening” of achievement, allowing more focus on “some of those attitudes and aptitudes that we know are going to create healthy, helpful

citizens, who can actually respond to their ever-changing world.” Another leader referred to “the skills and attributes they need to approach their futures in a flexible way,” indicating that if those are well developed, it will enable students “to be adaptive in the world they’re going to be going in to.” Similarly, one teacher mentioned in a survey response that students could benefit from MLE by learning the skills to become “a citizen of the world and knowing how to function and participate within it successfully.”

As well as preparing flexible, adaptive members of society for their future, staff also mentioned the importance of the transferability of skills. One teacher indicated that the key competencies may be “more important than knowledge” as they are “more transferable skills,” while another emphasised “the process of learning,” suggesting that “it’s not so much the grade that they get, but it’s the how they get there.” Similarly, a teacher interviewee referred to a broader sense of achievement, indicating that “it’s far more concept-based...than it ever has been.” Some students also appeared to notice a shift of emphasis on the skills being learned in this context:

S1: Well, being good at school doesn't just have to be academic... it's not just the 3 R's that make you good at school.

S2: Well, in school, there's skills that we did, that our parents learnt, and grandparents, that we still learn here. But there's also skills that they learned that we don't need to learn anymore. And there's skills that they never learnt and that we're learning.

A school leader underlines the distinction between traditional and modern achievement by saying, “I don't think that you can just look at the fact that they've accelerated their progress in literacy as being attributed to [the success of] modern learning.” While this leader also asked, “Can they plan their day? Can they manage their time? What are their relationships like with other students?” they went on to admit “a lot of those things are very difficult to...measure.”

In light of these responses, which align well with the literature prioritising 21st century skills and competencies, there were a number of participants

who continued to emphasise the importance of traditional indicators of achievement – namely, the skills associated with numeracy, literacy and other core curriculum areas. From one teacher’s stance, “for me, I would still want the end of your education [to be] a degree,” to another’s report that parents “wanted more explicit teaching,” it is evident that opinions about the measures of success at school were split. One parent reflected that their experience in an “Open Plan” classroom in the 1970’s was “heaps of fun but it was obvious when I got to Intermediate that the children from the open plan school were well behind in the ‘3R’s.’” Similarly, focus group students claimed they still valued the role of core academic skills in education:

S1: Personally, I find that it's more important to know how to write on paper than to type. Cause, like, anyone can type.

S2: Ye-ah.

S1: But, writing is more important.

S3: Writing is like a life skill, like reading and talking and stuff.

S4: Computers, you’re like, it has auto-correct on computers and devices.

S2: So, no one will know how to spell.

Although staff at the school championed the importance of the key competencies, one school leader’s point that “in a primary school setting...we still need to focus on core curriculum stuff and they still need to be learning to read, write and do maths to a highly effective level” and another leader’s claim that parents still need to “get good quality information about how [their child is] progressing in terms of their numeracy and literacy”, both suggest an ambiguity about which set of skills are deemed the most essential for the students at the school.

The current indicators of achievement in New Zealand - National Standards - were often referred to by teachers and school leaders as being inconsistent with the aims of MLP. Although a school leader admitted that the “academic stuff” was “a given,” the contradiction between national standards and modern learning was also recognised:

You know, to me that is, they're poles apart. If we're driving [a] national standards, you know, style or approach to learning, it is, 'Sit down, shut up and learn this shit so that I can get you up to standard.' As opposed to, 'I actually want you to learn, I want you to be really enjoying learning, engaged with your learning so you carry on doing it for the rest of your life.'

One teacher placed this division of priorities firmly into the hands of the MOE, by indicating that their endorsement of both National Standards and MLP contributed to bafflement within the educational community:

...there's a conflict between a Ministry of Education that pushes 21st Century learning and modern learning practice and modern learning environments, and judges students' success on numeracy and literacy. It's got to be a disconnect.

These perspectives suggest the current indicators of success in education may not fully reflect the aims and objectives of modern learning, an aspect highlighted by the 21st Century Learning Reference Group (2014) as part of their recommendations for future-focused learning in connected communities.

Another concern reflected by participants was the preparation for the future that students at the case study school were actually receiving. In particular, parents, students and teachers were concerned that students are not being well prepared for high school. One teacher suggested that secondary schools will just “throw them in single cells when they get to high school,” and another maintained that “very few [of] the high schools that this group of children will go to, operate in this way.” Similarly, a parent queried, “how will this flow through to high school?” Students were also anxious and worried about the transition. For example, several mentioned their concern about the lack of BYOD policies at local high schools – “knowing and [getting] used to BYOD in primary school and intermediate and then they go to high school and then they're not allowed them,” and “you're learning all these device skills pretty much for nothing, because you're not gonna use them at high school,” while one blamed the teachers at the case study site, noting, “...[the teacher] says that you should be prepared for high school, but, like, what's [the teacher] doing to prepare us?”

A final underlying tension evident in participant responses was the contradiction between surface and deep learning. As part of the school's adoption of FREDL to represent their commitment to MLP, there is an explicit priority on deep learning. One school leader suggested that continued effort must be put on making "the learning rich," by making sure "it doesn't become, 'Well, you're going to work with this teacher and then you're going to be doing a worksheet.'" The worry that MLE and MLP potentially promote "busy work" was also suggested by a teacher, and repeated by some students in their on-going reflections of teacher-driven priorities within MLE:

S1: ...[the teacher's] given us...a worksheet...and...that's challenging, and then we've done that and then [the teacher] gives us another thing...

S2: Something to buy time.

S3: We don't feel, well, personally, I don't feel like we're getting told what we're learning. We feel, I feel like we're just getting set work, just to use up time sometimes...there are some things that don't have any meaning at all.

Mention must be made, as well, of the impact digital devices are perceived to have on truly rich, deep learning in these contexts. Some participants appeared to believe that too much emphasis is placed on devices. A member of support staff in the initial survey suggested that MLE "appear to be reliant on access to suitable devices and internet connection. Too much time is wasted when one or other of these fails." The potential impact of devices was expanded upon by one focus group student:

I actually wonder if, like, before the digital age, like, if it was a better education? Cause we have to do it all digital...we don't get better at anything because the computers do it all for us.

A teacher also questioned "creativity in students" as a result of access to digital technologies, suggesting "there are things there that just spit out information so...[students'] thinking processes are changing." While a different student proclaimed, "I think sometimes people just have too much time on devices so...they get drawn into it or they just don't do learning." Another teacher reflected that many students came with a "minimal" work

ethic – “And if it...wasn't done on a device with all the bells and whistles, you know...spit out a pretty PDF or a movie, they just weren't interested.” This concern about the distraction of devices, away from the core business of learning, has gained further traction (Arthur-Worsop, 2015) since the release of a highly relevant OECD (2015) report, which indicates without “metacognitive regulation – the ability to organise complex hypertext structures into a coherent mental map,” students with devices could find themselves “digitally adrift” (p. 187).

The consequences of these concerns – whether or not students are immersed in opportunities for deep learning, the continuity and relevance of developing life-long learning skills for their immediate futures, and the polarity of possible indicators of success in 21st century education – are further disparities in how stakeholders perceive and engage with the emergence of modern learning. Inextricably linked to a reliance on educational jargon, the ambiguity inherent in the message, a tension between teacher and student centred pedagogies and an inconclusive interpretation of learner self-management as outlined in previous themes, and what it means to succeed and achieve in these environments is still up for discussion. Additionally, in an evolving context which features recent moves by the Minister of Education to review the Education Act, citing the need “to make it clear in our law that children and young people, and raising their achievement, comes first” (NZ MOE, 2015b), the imperative to distinguish between traditional and 21st century achievement is fundamental, so that schools and communities can then collectively agree on the purpose and goals of education in New Zealand.

Summary

As indicated in the previous 11 themes, the data collected in this study illuminates both synergy and disparity in perceptions of MLE and MLP at the case study school. Challenges surrounding the interpretation, implementation and future-proofing of successful educational reform have also been identified and evidenced. Using the research questions as a

framework, conclusions and recommendations surfacing from the qualitative data and the thematic analysis are outlined in Chapter Six.

Chapter Six: Conclusions and Recommendations

This chapter draws conclusions from and identifies the implications of the overall findings discussed in the previous two chapters. Based on these conclusions, recommendations are made at the policy level, school level and practitioner level. The research subquestions provide the framework for the bulk of this chapter, including: how MLE and MLP are perceived by the school community, how the perception of teacher collaboration affects practitioners' engagement with the shift to MLP, how the key competency "Managing Self" is perceived, and what it means to achieve in this context and how that can be measured. This section then culminates with conclusions and implications stemming from the overarching research question that drove this study. Lastly, a summary of the recommendations made are listed, areas for future research are identified and limitations of this study are discussed.

Research Subquestion 1: *How is the definition of MLE and MLP perceived?*

Not surprisingly, the definitions of MLE and MLP were perceived with a certain level of confusion. As indicated in the survey findings and through the thematic analysis, MLE were recognised, much like they are promoted, as connected, flexible and healthy spaces. They were also referred to, albeit less so, as enabling engaging, student-centred pedagogies, including collaborative, ubiquitous and personalised learning. However, participants were largely more comfortable with the intention of building MLE and using the large, open, flexible learning spaces than they were with the definition and purpose of MLP.

The range of responses about MLP were not entirely unanticipated, considering the teaching and learning practices that are encouraged to be utilised in 21st century learning environments do not have categorical definition anywhere in the literature. As a result, it is fair to conclude that there is a lack of clarity surrounding the definition and purpose of MLP. Although the New Zealand Curriculum outlines specific actions teachers

should adopt as elements of “effective pedagogy” (NZ MOE, 2007, p.34), the MOE’s “Innovative Learning Environments” website makes separate reference to four student-centred pedagogical elements proven to help students learn best – active involvement in decision making, student-initiated learning, collaborative learning and making connections across integrated learning areas (NZ MOE, 2015h). These are significantly different to the seven teacher actions listed as components of effective pedagogy. Similarly, the Ministry’s migration of terminology – from MLE to Innovative Learning Environments – midway through a national initiative that mandates the use of these spaces, along with the school’s development of their own terminology - FREDL - further contribute to the confusion with regards to vocabulary and meaning. The diverse jargon utilised by both the MOE and the leadership of the case study school is indicative of a distinct lack of common ground around desired practices within MLE. Examples of this were highlighted in the first theme, *The Dichotomy Between Flexibility and Structure*, as well as in the third and fourth themes, *Change as an Iterative Process* and *The Origin of Modern Learning*.

Furthermore, the pressure perceived by teachers – from both their leadership and wider influences – that there is a visible and achievable, yet nebulous ideal to aspire to when implementing MLP, generates even more confusion about what they should be doing in the spaces. *Change as an Iterative Process* illustrates a feeling of reinventing the wheel, while at the same time the fifth theme *The Fallacy of “Modern”* indicates this particular reform is perceived as yet another example of the emperor’s new clothes. The fact that the teachers do not fully understand the intention nor the end product of this reform has the confounding implication that they will be less likely to take pedagogical risks, which seems counter-intuitive to the espoused “innovative” nature of this change. Furthermore, the discussion surrounding whether or not modern learning is actually “innovative” or “new” detracts from the most important conversation to be had – how we can prepare students for an unknown

future, with the skills and dispositions to be “confident, connected, actively involved, life long learners” (NZ MOE, 2007, p. 7).

The ambiguity surrounding MLP has further – and possibly ominous - implications for the educational landscape. The apparent lack of understanding within the community regarding both the Ministry’s and the school’s aims, coupled with recent media articles which situate schools as either “for” or “against” modern learning (Carroll, 2015; Walters, 2015) has generated a perception of community backlash to this reform. Using these perceived negative feelings as justification, the case study school’s leadership has deliberately chosen not to be transparent about the changes that they are seeking to implement at the school. This murky approach, as illuminated in the second theme, *Change Without Community Consultation*, causes further scepticism in the wider community, and contributes to a cycle of poor communication. Paradoxically, however, Williams (2013) suggests that it is precisely the wider school culture – including the school’s leadership – which “sustains and dictates the strength” of a learner-centred culture (p. 13). Distrust and reluctance, bred inadvertently by the school leadership’s deliberate lack of consultation has actually moved the discourse further away from the core purpose of school – improving student outcomes.

It is imperative, in order for an educational transformation of this magnitude to be successful, that any communication surrounding MLE and MLP moves away from the confused jargon of educational reform (Hattie, 2015a). The aims and purposes of MLE and MLP must be clearly articulated and accessible to all stakeholders – including school governing bodies, school leadership, teachers, students and parents – to ensure more unilateral support for the adoption of student-centred pedagogies from the wider community. Without more evidence-based and learner-centred substance behind the jargon, teachers and students are left to make assumptions about what MLP is, therefore reverting, by default, to “traditional” teacher-centred approaches.

Research Subquestion 2: *How does the perception of MLE and MLP by teachers affect their engagement in collaborative pedagogy?*

The feeling of top-down pressure to achieve an unclear ideal, as described in *The Origin of Modern Learning*, combined with a school-wide mandate of teacher collaboration, has led some teachers at the case study school to feel reluctant to engage with the expected shift to collaborative practices. The implied perception from school leaders, that teacher collaboration's function is to provide greater teacher accountability - and therefore improve teacher practice - rather than to directly improve the learning experience of students, further adds to this reluctance. This is exhibited in both the sixth and eighth themes: *Teacher Reluctance* and *Teacher Collaboration to Improve Practice*.

The pressure to improve teacher performance is directly fuelled by the Ministry of Education's emphasis on traditional academic achievement as the measure of success for students. The OECD's Programme of International Student Assessment (PISA), which ranks OECD and non-OECD countries according to measures of achievement of 15 year old students in mathematics, science and reading, encourages policy-makers to develop tools to ensure their nation performs well in the high-stakes results game (Breakspear, 2014; Goldstein & Thrupp, 2014). This competitive environment, balanced on the understanding that teacher behaviours are critical to improving student outcomes, provides a context in which the performativity of teachers is under the microscope, and accountability to quantifiable student academic success is rife, placing the onus of traditional student achievement firmly with the teacher. Teacher collaboration is yet another tool wielded to manage professionals, in an effort to bring accountability and conformity, and therefore improve and maintain New Zealand's place in international rankings.

The literature indicates that collaboration with and between teachers does, in fact, have a significant impact on the effectiveness of individual teachers as well as teams of teachers (Hargreaves & Fullan, 2012). However, I believe that concentrating on teacher collaboration blurs the discourse

around MLP, and further detracts from the utilisation of pedagogical approaches that are both student-centred and future-focused. Hattie (2015b) agrees when he says that the implication of attempting to “fix the teacher” actually ignores the multitude of other influences on student outcomes, many of which are outside the control of individual practitioners. Although MLE do provide a means of deprivatisation of practice (Osborne, 2013), the two dialogues are not inextricably linked. In order to provide clarity, effort must be made to separate the discourse around MLP and teacher collaboration.

Teacher reluctance will only decrease when the discourse around education remains relentlessly on the learner. If the conversation around MLP were to move away from a teacher-centred discussion, there might be less resistance from teachers to a pedagogical shift of this magnitude. A discourse that highlights what *students* are learning in MLE, rather than what *teachers* are doing, will ultimately gain more traction from professionals and therefore have greater success and sustainability. It is essential that teachers no longer feel the blame for perceived failures indicated by standardised measures of achievement in the high-stakes international league table game (Breakspear, 2014; Sahlberg, 2015) and that their professionalism – their ability to flexibly respond to the needs of their students – is valued as the crucial expertise that it is. The imperative of student-centric learning – with students, by students, for students – should be at the core of each decision, rather than fixating on what teachers are doing or how they can improve. Consequently, the energies from reflective, passionate educators, directed on what students actually need, will inherently have a profound effect on their practice – as they consider not what they need, but what will best benefit their students’ learning journeys.

Simultaneously, policy-makers should use the strong research base available to transparently promote an explicit expectation that all practicing teachers will participate in some form of teacher collaboration, proven to improve and maintain excellent teaching and learning for all students. Of

course, this will require cross-sector consultation to effectively anatomise where, on the continuum of collaboration, teachers should prioritise their energies. Importantly, this consultation must include a transparent look at how teacher to student ratios and class sizes may be affected if co-teaching practices are adopted at a policy level (Riley, 2014; Villa et al., 2013). At the same time, the importance of the collaborative efforts of teachers in working collectively to improve student achievement must be established within teacher training programmes. Within this context, over time, teachers will come to expect and embed the practice of working together for the purpose of developing and maintaining truly student-centred approaches.

Research Subquestion 3: *Within the context of MLE and MLP, how is student agency or ‘Managing Self’ perceived?*

At the case study school, “Managing Self” was perceived as either a multi-faceted learning process or simply task completion. As indicated in the ninth theme, *The Product and Process of Managing Self*, there was a disparity between whether it was one or the other, rather than a broader definition that encompassed both interpretations. Seen as a vague and complex phenomenon, there were calls from participants for learner self-management to be scaffolded by teachers more effectively. However, there appeared to be an assumption by some participants that if students require support or assistance, then they are not, in fact, self-managing. This was illustrated in the tenth theme, *The Paradox of Scaffolded Self-management*. Unfortunately, this laissez-faire interpretation of Managing Self, which antithetically opposes Wood, Bruner and Ross’s (1976) characterisation of scaffolding, creates a context that enables, as reported by participants, off-task and avoidant student behaviours, moving them further away from the objective of fostering learning competencies which will better assist them to become life-long learners.

As “Managing Self” is currently one of the key competencies listed in the New Zealand Curriculum, and its counterpart, self-direction, has been identified as one of the crucial attributes of 21st century learning by the

Ministry of Education (2015f) in a recent discussion document, I would suggest the interpretation of these competencies requires far more scrutiny. This requires the use of concrete and explicit language to describe the core skills involved in Managing Self, as well as clarity around the approaches and practices by teachers that will best support this skill acquisition by learners. The case study school has already adopted the New Pedagogy for Deep Learning project's "Character" learning progression rubric - which highlights skills such as learning to learn and self-regulation - however, I would suggest that this crude measurement tool only goes part way in identifying the specific behaviours required of learners taking responsibility for the what, how, who, when and where of their learning. A more detailed and school-specific definition of Managing Self could bring clarity to both what the competency represents and the desired, visible behaviours that teachers can promote and scaffold to support the development of these skills.

Research Subquestion 4: *Consequently, what is "achievement" in this context and how is it measured?*

It was clear in this study that participants still place significant value on literacy and numeracy in terms of what it means to achieve in the 21st century. This is supported by the Ministry of Education's emphasis on National Standards as the chief indicator of success, as well as its support of interventions such as Accelerated Learning in Literacy (ALL) and Accelerated Learning in Mathematics (ALiM) (NZ MOE, 2015g). However, the siloing of curriculum areas, as a result of the pressure felt to get students to achieve age-based standards, is paradoxical to the foundations of student-centred learning, which encourages strategically engineered personalised, integrated learning, developed from learner-initiated interests.

Promoters of personalised learning already recognise the difficulty in marrying the intentions of personalisation with a state-controlled curriculum (Campbell et al., 2007). Commentary from both educational thought leadership and 21st century learning literature, however, are

beginning to advocate for more competency based educational outcomes, in line with the future-focused learning skills and attributes being prescribed for this and future generations. The perceived importance of both these competencies and traditional measures of achievement to the participants at the case study school were displayed in the last theme, *Traditional v. 21st Century Achievement*. However, the challenge that this presents for teachers, many of whom also appear to be grounded in the “traditional” idea of achievement, is the feeling of trying to do and measure too much.

A move towards competency-based learning models and therefore, corresponding indicators of success, is already afoot internationally (Council of Chief State School Officers, 2013; Voorhees, 2001). Bolstered by a future-focused, holistic national curriculum, it is not difficult to imagine the focus of achievement in New Zealand education shifting from standards-based to competency-based measures. Already heralded as “the best in the world” by some academics (CORE Education, 2011b), the New Zealand Curriculum’s dual focus on key competencies as well as traditional core curriculum areas has the ability to help teachers and learners develop the learning skills and dispositions needed to adapt and contribute to the shifting social, technological and cultural contexts of the future. Combined with the central tenets of student-centred pedagogies, identified as highly effective ways to engage and develop life-long learners (Shear et al., 2011), an opportunity is present for education in New Zealand to be truly innovative.

The current review and update of the 1989 Education Act provides the perfect platform for addressing this present incongruity in terms of achievement. Still in its consultative phase, one purpose of the update is “to make it clear in our law that children and young people, and raising their achievement, comes first” (NZ MOE, 2015a). Under this umbrella of learner-centred language and building on the foundations of a comprehensive national curriculum, there is significant scope to streamline the goals of education in New Zealand, aligning them with the emerging

vision and aims for 21st century learning in MLE. As well as providing “system coherence” (21st Century Learning Reference Group, 2014, p. 26), a shift to competency-based assessment measures will more comprehensively reflect the growing enthusiasm for student-centred, integrated, authentic and contextually relevant modern approaches such as UDL (Bray & McClaskey, 2015) or STEM (science, technology, engineering and mathematics) education, and move us further away from the disparity of perceptions currently dominating the landscape.

Overarching research question: *What are the challenges faced by a learning community implementing Modern Learning Environments (MLE) and Modern Learning Practice (MLP)?*

As discussed in detail in the previous sections, there are perceptions of both the risks and benefits when making the shift to MLP. The challenges presented by stakeholders at the case study school include: a nebulous and confused interpretation of modern learning, with too much focus on the expectations and behaviours of teachers and not enough emphasis on the learning of students – engendering a certain amount of reluctance on the part of practitioners. Significantly, the lack of reference to student-centred pedagogies in the school’s MLE precipitates further inconsistencies with regards to what it means to self-manage as a learner and what it means to achieve in these learning environments. Collectively, these challenges create a disjointed narrative, which attempts to tell too many stories, and do too much. The potential impact of learning environments with incohesive and ill-defined purpose on the learning of current students, could be dramatic and severe. At best, it will simply perpetuate the status quo, where, at worst, it could have harmful effects on the ability of future generations to successfully adapt to their ever-changing world.

As this research is a point-in-time snapshot of the perceptions of community members of one school at the inception of a paradigmatic shift, it is possible that these challenges may, over time, diminish and disappear altogether. In fact, it would be worthwhile – for both this community and others - to revisit the school in another few years to capture a snapshot of

perceptions at that point in time, as well. Anecdotally – both in New Zealand and worldwide – there appears to be an organic, grass-roots movement amongst some teachers, school leaders, parents and policy-makers to recapture and reinvest in student-centred pedagogies, with enthusiastic reports of success. However, I would suggest the scale of the investment being made by the MOE is such that current students cannot - and should not be asked to - wait for a grass-roots movement to catch on and enthuse the rest of the educational community. Instead, both policy-makers and school leaders have a responsibility to articulate a streamlined vision for 21st century learning, the skills and competencies that learners of the future require, pedagogical approaches that will enthuse, engage and inspire learners, and how they envision those should play out in modern, open and flexible learning environments.

As a result of this clarity, some teachers will be challenged to change their mindset, shift their pedagogical stance and open their traditionally isolated practice to the eyes of their peers and essentially the connected world. Although I have made no recommendations for teachers up to this point, I would suggest two last recommendations are essential for learner-centred education to gain momentum. Firstly, there is an imperative that teachers regain their sense of professional integrity through actively and autonomously revisiting the theoretical underpinnings of student-centred pedagogies. Whether through independently pursuing professional learning opportunities which question and challenge both their espoused beliefs and their enacted practices (Ertmer et al., 2012), or through participating in the supportive, collegial and collaborative conversations already taking place in the realm of social media and other professional networks, it is essential that they persistently keep the learner at the centre of their practice. Secondly, I suggest that teachers leverage the expectation of collaboration to their students' advantage. Instead of discussing what it is they should be doing as teachers, they should use their collaborative efforts to share what it is *the learners are doing*, to better understand what it is that students can do, and what their next steps as learners should be.

Recommendations

This section summarises the recommendations discussed in the subquestion and overarching research question conclusions.

Recommendations have been made at the policy level, school level and teacher level.

Policy level recommendations.

1. That the Ministry of Education provide further clarity - through accessible literature and media releases - around their vision for 21st century learning and, specifically, the practices that they expect to see when promoting modern pedagogies in MLE or ILE.

2. That the MOE re-aligns their expectations of “Effective Pedagogy” with more student-centred pedagogies, as indicated in their current literature promoting Innovative Learning Environments.

3. That the MOE supports the development of collaborative competencies in teachers through teacher education programmes, and explicitly states the expectation of teacher collaboration in the criteria for Practicing Teachers.

4. That, as part of the Education Act review, the Ministry undertakes a re-evaluation and re-interpretation of current assessment measures to better align with the adaptive and flexible competencies which dominate the future-focused learning discourse.

5. That, as part of the directive for schools to embrace innovative learning environments and the practices that they promote, the Ministry develops and delivers appropriate professional development opportunities focused on student-centred pedagogies and integrated curriculum delivery models.

School level recommendations.

1. That school leaders provide more discussion and professional development for staff in interpreting and embodying the school’s vision for

FREDL (Flexible and Responsive Environments for Deep Learning), including establishing desired teaching and learning practices within their MLE.

2. That school leaders and staff spend time to actively and explicitly share their vision for FREDL with parents and students, involving the whole community in their shared beliefs surrounding the desired teaching and learning practices within their MLE.

3. That school leaders shift the focus of the mandate around MLP at the case study school from collaborative teaching and learning, to deep, student-centred teaching and learning, so that the discussions in which collaborating teachers engage remain focused on what their learners need.

4. That the school develops a community-wide definition of “Managing Self,” linked to the broader aims of student-centred pedagogies, including the creation of matrices or rubrics to illustrate desired learning behaviours understood to best promote student-centred learning cycles.

5. That the school maintain focus on learner needs, developing and growing life-long learning competencies, through the pursuit of more authentic learning in the form of student-driven, inter-disciplinary, real-life contexts.

Teacher level recommendations.

1. That teachers actively and autonomously pursue connections with other passionate and learner-centred educators to continue to contribute to the discourse surrounding authentic, contextual, student-centred learning.

2. That teachers leverage the tool of collaboration to share what it is that learners can do and to identify how that can be built upon as next steps in the effort to develop life-long learning skills and competencies.

Recommendations for future research.

1. That the case study school invest in future research opportunities to document and evaluate the changes that will take place as they continue to transform teaching and learning in MLE.
2. That the Ministry of Education invest in robust, evidence-building, evaluative research to further justify their position in funding, mandating and promoting MLE as an appropriate mechanism for advancing a learner-centred agenda in New Zealand schooling.

Limitations

The limitations of this study sit primarily within the methodology employed. Firstly, the small scale of this case study suggests that the findings and therefore the conclusions may not provide sufficient generalisability to other schools in similar situations. It certainly does not provide a universal representation of the perceptions and experiences of all schools undertaking a shift to Modern Learning Practice. However, the findings and recommendations have a relatability that could be useful for many schools mandated to use MLE by the MOE in New Zealand.

Secondly, although an effort was made to capture a snapshot of perceptions across most stakeholders at the case study school, the scope of this research did not allow for more in-depth discussion with parents, such as interviews or focus groups. Parent and Board of Trustee members' perceptions were gathered through the initial survey, however, as with school leaders, teachers and students, further probing of the underlying purposes and meanings associated with their survey responses may have divulged even richer data.

Lastly, triangulation of the data and therefore the meaning made through its analysis may have been supported through the observation of teaching and learning behaviours in MLE. Although this study focused primarily on the perceptions of stakeholders in making the shift to MLP, greater depth of understanding of how participants perceive their experience could have

been gleaned through observation as a data collection tool. Unfortunately, the scale of this research again precluded this possibility.

Final Word

This case study represents findings from a small-scale study at one New Zealand intermediate school undergoing a fundamental and transformational shift to a more future-focused approach to teaching and learning. The change taking place at this institution is far from unique, however. Compelled partly by policy-makers and partly by educational thought leadership influences, there is currently an international conversation occurring, which promotes student-centred, competency-based learning for the future. The findings from this study are significant in their relevance and relatability to that discourse. Throughout this research, I have regained my own appreciation for and focus on the interests and needs of each learner. As a practitioner, I will strive to cut through the jargon of reform and maintain focus on what it is that learners in my care need to become adaptable and capable life-long learners. As for other practitioners in schools adopting similar changes, it is my hope that the implications and recommendations that surfaced from this study will go some way in helping them to appreciate and realise that universal, learner-centred goal.

References

- 21st Century Learning Reference Group (2014). *Future-focused learning in connected communities*. Retrieved from Ministry of Education website
<http://www.education.govt.nz/assets/Documents/Ministry/Initiatives/FutureFocusedLearning30May2014.pdf>
- Amos, C. (2013, February 17). 21st century education change-makers or old school smoke screens? [Web log message]. Retrieved from <http://www.teachingandlearning.com/>
- Alton-Lee, A., Hunter, R., Sinnema, C., & Pulegatoa-Diggins, C. (2012). *Developing communities of mathematical inquiry: BES Exemplar 1*. Retrieved from Ministry of Education, Education Counts website:
http://www.educationcounts.govt.nz/__data/assets/pdf_file/0011/107111/BES-Exemplar1.pdf
- Ananiadou, K., & Claro, M. (2009). *21st century skills and competences for new millennium learners in OECD countries*. (OECD Education Working Papers, No. 41). OECD Publishing, Paris. doi:
<http://dx.doi.org/10.1787/218525261154>
- Assessment & Teaching of 21st Century Skills (2009-2012). *21st Century Skills*. Retrieved from <http://www.atc21s.org/>
- Arthur-Worsop, S. (2015, November 6). Educator challenges teachers. *Rotorua Daily Post*. Retrieved from http://m.nzherald.co.nz/rotorua-daily-post/news/article.cfm?c_id=1503438&objectid=11541015
- Australian Government. (2009). *Part 2: Nation Building and Jobs Plan: Building prosperity for the future and supporting jobs now*. Retrieved from http://www.budget.gov.au/2008-09/content/uefo/html/part_2.htm
- Bartle, E. (2015, March). *Personalised learning: an overview*. Paper prepared for Professor Joanne Wright, Deputy Vice-Chancellor (Academic) for the Vice-Chancellor's retreat. Retrieved from http://itali.uq.edu.au/filething/get/1865/Personalised_learning_overview_Final_16_Mar_15.pdf
- Bell, J. (2014). *Doing your research project: A guide for first-time researchers in education, health and social science* (6th ed.). Berkshire, England: Open University Press.
- Bishop, R. (1997). Interviewing as collaborative storytelling. *Education Research and Perspectives*, 24(1), 28-47.

- Bisset, J. (2014). *The move to modern learning environments in New Zealand secondary schools: step forward or smokescreen?* (Masters thesis, Unitec Institute of Technology, Auckland, New Zealand). Retrieved from http://unitec.researchbank.ac.nz/bitstream/handle/10652/2700/Joanne%20Bissett_2015-02-23.pdf?sequence=1
- Blackmore, J., Bateman, D., Loughlin, J., O'Mara, J., & Aranda, G. (2011a). *Research into the connection between built learning spaces and student outcomes* (Paper No. 22). Melbourne, Australia: State of Victoria, Department of Education and Early Childhood Development.
- Blackmore, J., Bateman, D., Cloonan, A., Dixon, M., Loughlin, J., O'Mara, J., & Senior, K. (2011b). *Innovative learning environments research study*. Retrieved from <http://vhost35.hosted-sites.deakin.edu.au/docs/learningspaces-final-report.pdf>
- Bolstad, R., Gilbert, J., McDowall, S., Bull, A., Boyd, S., & Hipkins, R. (2012). *Supporting future-oriented learning & teaching: A New Zealand perspective*. Wellington: Ministry of Education.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101. doi: 10.1191/1478088706QP063oa.
- Braun, V. & Clarke, V. (2012). Thematic Analysis. In: H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf & K. Sher (Eds.), *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp.57-71). Washington, DC: American Psychological Association.
- Bray, B., & McClaskey, K. (2015). *Make Learning Personal*. Thousand Oaks, CA: Corwin.
- Breakspear, S. (2014). *How does PISA shape education policy making? Why how we measure learning determines what counts in education* (Seminar Series Paper No. 240). Melbourne, Australia: Centre for Strategic Education. Retrieved from <http://simonbreakspear.com/wp-content/uploads/2015/09/Breakspear-PISA-Paper.pdf>
- Brenner, M. (2014, March 31). What is thought leadership? Why you need it. And steps to get it right [Web log message]. Retrieved from <https://www.linkedin.com/>
- Brogden Head, M. (1983). Open plan primary schools: rhetoric and reality. *School Organisation*, 3(1): 27-41. doi: 10.1080/0260136830030104

- Bush, M., Hygate, V. & O'Reilly, N. (2014). Co-teaching and collaboration. Retrieved from <http://www.waitakiri.school.nz/site/waitakirischool/Literature%20review%20for%20staff%20and%20website.pdf>
- Byers, T., Imms, W., & Hartnell-Young, E. (2014). Making the case for space: The effect of learning spaces on teaching and learning. *Curriculum and Teaching*, 29(1): 5-19.
- Byrne, D. (1998). *Complexity theory and the social sciences*. London, England: Routledge.
- Campbell, R.J., Robinson, W., Neelands, J., Hewston, R. & Mazzolli L. (2007). Personalised learning: ambiguities in theory and practice. *British Journal of Educational Studies*, 55(2), 135-154. doi: 10.1111/j.1467-8527.2007.00370.x
- Carroll, J. (2015, November 8). Parents take extreme measures to move children out of school zones. *Sunday Star Times*. Retrieved from <http://www.stuff.co.nz/national/education/73732596/Parents-take-extreme-measures-to-move-children-out-of-school-zones>
- Chee, T.S., Divaharan, S., Tan, L. & Mun, H.C. (2011). *Self-directed learning with ICT: theory, practice and assessment*. Singapore: Ministry of Education. Retrieved from <http://ictconnection.moe.edu.sg/ictconnection/slot/u200/mp3/monographs/self-directed%20learning%20with%20ict.pdf>
- Claxton, G. (2002). *Building learning power*. Bristol, England: TLO Limited.
- Cleveland, B. (2011). *Engaging spaces: Innovative learning environments, pedagogies and student engagement in the middle years of school*. (Doctoral thesis, The University of Melbourne, Melbourne). Retrieved from <http://hdl.handle.net/11343/36515>
- Cleveland, B. & Fisher, K. (2014a, August). A Brief History of Learning Environment Evaluation. In W. Imms & K. Fisher (Chairs) *Talking Spaces 6 - Learning Environment Evaluation: What Works?* Symposium hosted by E21LE: Evaluating 21st Century Learning Environments, Melbourne, Australia.
- Cleveland, B. & Fisher, K. (2014b). The evaluation of physical learning environments: a critical review of the literature. *Learning Environments Research*, 17(1), 1-28. doi: 10.1007/s10984-013-9149-3

- Clinton, J. (2014, August). Evaluation: Theory, Practice & Use. In W. Imms & K. Fisher (Chairs) *Talking Spaces 6 - Learning Environment Evaluation: What Works?* Symposium hosted by E21LE: Evaluating 21st Century Learning Environments, Melbourne, Australia.
- Clydesdale, T. (2009). Wake up and smell the new epistemology. *The Chronicle of Higher Education*, 55(20), n/a. Retrieved from <http://search.proquest.com.ezproxy.waikato.ac.nz/docview/214641743/fulltext/47BF30B1B86D4BA3PQ/1?accountid=17287>
- Codd, J. (2005). Teachers as 'managed professionals' in the global education industry: The New Zealand experience. *Educational Review*, 57(2), 193-206. doi:10.1080/0013191042000308369
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed). Oxon, England: Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed). London, England: Routledge.
- Common Core State Standards Initiative. (2015). *What parents should know*. Retrieved from <http://www.corestandards.org/>
- CORE Education. (2011a, November 11). *Personalisation as the way forward* [Video file]. Retrieved from <http://edtalks.org/video/simon-breakspear-personalisation-way-forward>
- CORE Education. (2011b, August 26). *Expressing the essence of the NZ curriculum* [Video file]. Retrieved from <http://edtalks.org/video/dr-julia-atkin-expressing-essence-nz-curriculum>
- Cooper, P. (2013). *Primary School Leadership in Modern Learning Environments*. Paper written as a part of TeachNZ Primary School Principal's Sabbatical. Retrieved from <http://www.educationalleaders.govt.nz/Leadership-development/Professional-information/Principals-sabbatical-reports/Primary-award-recipients-2013/Cooper-Paul>
- Cornell, P. (2002). The impact of changes in teaching and learning on furniture and the learning environment. *New directions for teaching and learning*, 2002(92), 33-42. doi: 10.1002/tl.77
- Council of Chief State School Officers. (2013). *Knowledge, skills, and dispositions: The Innovation Lab network state framework for college, career, and citizenship readiness, and implications for state policy*. Retrieved from Council of Chief State School Officers website: http://www.ccsso.org/Resources/Publications/ILN_CCR_Framework.html

- Crockett, L., Jukes, I., & Churches, A. (2011). *Literacy is not enough: 21st century fluencies for the digital age*. Thousand Oaks, CA: Corwin.
- Cuban, L. (2004). Whatever happened to... The open classroom? Were schools without walls just another fad?. *Education Next*, 2, 68-71.
- Davidson, C. (2011, February 27). Why Higher Ed Fails at Job Preparation—and What We Can Do About It [Web log message]. Retrieved from <http://www.cathydavidson.com/>
- de Corte, E. (2010). Historical developments in the understanding of learning. In Dumont, H., D. Istance and F. Benavides (eds.), *The Nature of Learning: Using Research to Inspire Practice*, Educational Research and Innovation (pp. 35-67), OECD Publishing, Paris. doi: <http://dx.doi.org/10.1787/9789264086487-en>
- Denzin, N.K., Lincoln, Y.S., & Giardina, M.D. (2006). Disciplining qualitative research. *International Journal of Qualitative Studies in Education*, 19(6), 769-782.
- Department for Education. (2014). New curriculum will make education system 'envy of the world' [Press release]. Retrieved from <https://www.gov.uk/government/news/new-curriculum-will-make-education-system-envy-of-the-world>
- Department for Education and Skills. (2003). *Building schools for the future: Consultation on a new approach to capital investment*. Retrieved from Department of Education, UK website: <http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/DfES%20134%20200MIG469.pdf>
- Desimone, L. M., & Le Floch, K. C. (2004). Are we asking the right questions? Using cognitive interviews to improve surveys in education research. *Educational evaluation and policy analysis*, 26(1), 1-22.
- DuFour, R. (2004). What is a professional learning community? *Educational Leadership*, 61(8), 6-11.
- Dumont, H. & Istance, D. (2010). Future directions for learning environments in the 21st century. In Dumont, H., D. Istance and F. Benavides (eds.), *The Nature of Learning: Using Research to Inspire Practice*, Educational Research and Innovation (pp. 317-338), OECD Publishing, Paris. doi: <http://dx.doi.org/10.1787/9789264086487-en>

- Education and Science Committee. (2012). *Inquiry into 21st century learning environments and digital literacy* (Report presented to the New Zealand House of Representatives). Wellington, New Zealand: Author.
- Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education, 59*(2), 423-435. doi:10.1016/j.tate.2012.08.005
- Filardo, M. (2008). *Good Buildings, Better Schools: An economic stimulus opportunity with long-term benefits* (Briefing Paper #216). Washington DC: Economic Policy Institute.
- Fisher, K. (2005). *Linking pedagogy and space: planning principles for Victorian schools based on the principles of teaching and learning*. Retrieved from www.eduweb.vic.gov.au/edulibrary/public/assetman/bf/Linking_Pedagogy_and_Space.pdf
- Fowler, F. (1998). Design and evaluation of survey questions. In L. Bickman & D. Rog (Eds.), *Handbook of applied social research methods* (pp. 365-374). Thousand Oaks, CA: Sage.
- Fullan, M., & Langworthy, M. (2014). *A rich seam: How new pedagogies find deep learning*. (New Pedagogies for Deep Learning White Paper). Retrieved from New Pedagogies for Deep Learning website: http://www.michaelfullan.ca/wp-content/uploads/2014/01/3897.Rich_Seam_web.pdf
- Fullan, M. & Scott, G. (2014). *Education Plus: The world will be led by people you can count on, including you!* (New Pedagogies for Deep Learning White Paper). Retrieved from New Pedagogies for Deep Learning website: <http://www.newpedagogies.info/wp-content/uploads/2014/10/Education-Plus-A-Whitepaper-July-2014.pdf>
- Gerritsen, J. (2015, December 2). Backlash against open-plan classrooms. *Radio New Zealand*. Retrieved from <http://www.radionz.co.nz/news/national/291045/backlash-against-open-plan-classrooms>
- Gibson, J. (2012). Interviews and focus groups with children: methods that match children's developing competencies. *Journal of Family Theory & Review, 4*(2), 148-159. doi: 10.1111/j.1756-2589.2012.00119.x
- Gilbert, J. (2005). *Catching the Knowledge Wave? The Knowledge Society and the future of education*, NZCER Press, Wellington, New Zealand.

- Goldstein, H. & Thrupp, M. (2014). Responses to Andreas Schleicher's Reply to the Open Letter. *Policy Futures in Education*, 12(7), 888-882. Retrieved from <http://pfe.sagepub.com.ezproxy.waikato.ac.nz/content/12/7/880>
- Hampson, M., Patton, A., & Shanks, L. (2012). *10 ideas for 21st century education*. London, England: Innovation Unit.
- Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.
- Harris, S. (2010, August) *The Place of Virtual, Pedagogic and Physical Space in the 21st Century Classroom*. Paper presented at EduLearn and International Conference on Information Communication Technologies in Education, Corfu, Greece. Retrieved from http://static.squarespace.com/static/510b86cce4b0f6b4fb690106/t/51998ebce4b00c954c5fd2f0/1369018044049/stephen-harris_virtual-pedagogical-physical-space-21st-century.pdf
- Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London, England: Routledge.
- Hattie, J. (2015a). What doesn't work in education: the politics of distraction. Retrieved from Pearson: <https://www.pearson.com/hattie/distractions.html>
- Hattie, J. (2015b). What works best in education: the politics of collaborative expertise. Retrieved from Pearson: <https://www.pearson.com/hattie/solutions.html>
- Higgins, S., Hall, E., Wall, K., Woolner, P., & McCaughey, C. (2005). The impact of school environments: A literature review. *The Centre for Learning and Teaching, School of Education, Communication and Language Science, University of Newcastle*. Retrieved from <http://ncl.ac.uk/cflat/news/DCReport.pdf>
- Hipkins, R. (2014). *Different ways of thinking about learning*. Retrieved from NZCER website: <http://www.nzcer.org.nz/research/publications/different-ways-thinking-about-learning>
- Howard-Jones, P. A. (2014). Neuroscience and education: myths and messages. *Nature Reviews Neuroscience*. doi: 10.1038/nrn3817
- Hunley, S., & Schaller, M. (2009). Assessment: The Key to Creating Spaces that Promote Learning. *Educause Review*, 44(2), 26-34.
- Illich, I. (1971). *Deschooling Society*. London, England: Calder & Boyars.

- Imms, W. & Byers, T. (2015). *Evidence concerning the impact of classroom design on teacher pedagogy, and student engagement and performance in mathematics*. Unpublished journal article, The University of Melbourne, Melbourne.
- Johnson, R.B. & Onwuegbuzie, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14-26. doi: 10.3102/0013189X03307014.
- Kirschner, P.A. & van Merriënboer, J. J. G. (2013). Do Learners Really Know Best? Urban Legends in Education. *Educational Psychologist*, 48(3): 169-183. doi: 10.1080/00461520.2013.804395
- Konnikova, M. (2014). The open-office trap. *The New Yorker*. Retrieved from <http://www.newyorker.com/business/currency/the-open-office-trap>
- Krauss, S.E. (2005). Research paradigms and meaning making: A primer. *The Qualitative Report*, 10(4), 758-770.
- Lackney, Jeffery A. (2008). "Teacher Environmental Competence in Elementary School Environments." *Children, Youth and Environments*, 18(2): 133-159. Retrieved from http://www.jstor.org/stable/10.7721/chilyoutenvi.18.2.0133?seq=1#page_scan_tab_contents
- Leadbeater, C. (2006). The future of public services: personalised learning. In OECD, *Schooling for tomorrow: Personalising education* (pp. 101-114). OECD Publishing. doi: <http://dx.doi.org/10.1787/9789264036604-8-en>
- Lincoln, Y. S., Lynham, S.A., & Guba, E.G. (2005). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N.K. Denzin & Y.S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (pp. 97-128). Los Angeles, CA: Sage.
- Lomas, C. (2006). Student Practices and their impact on Learning Spaces. In D.G. Oblinger (Ed.), *Learning Spaces* (pp. 5.1–5.11). EDUCAUSE. Retrieved from <http://www.educause.edu/learningspaces>
- Markula, P., & Silk, M. (2011). *Qualitative research for physical culture*. Hampshire, England: Palgrave Macmillan.
- Martin, R., & Williams, J. (2012). "I Feel I'm Important": Successful Collaborative Teaching and Learning in a New Zealand Intermediate School. *RMLE Online*, 36(2), 1.

- Menter, I., Elliot, D., Hulme, M., Lewin, J., & Lowden, K. (2011). *A guide to practitioner research in education*. London, England: Sage.
- Neill, A.S. (1968). *Summerhill*. Harmondsworth, England: Penguin Books.
- New Zealand Ministry of Education (2007). *The New Zealand Curriculum: for English-medium teaching and learning in years 1-13*. Wellington: Learning Media.
- New Zealand Ministry of Education. (2015a). *Designing quality learning spaces in schools*. Retrieved from <http://www.education.govt.nz/school/property/state-schools/design-standards/flexible-learning-spaces/designing-quality-learning-spaces/>
- New Zealand Ministry of Education (2015b). *Education Act update*. Retrieved from <http://www.education.govt.nz/ministry-of-education/consultations-and-reviews/education-act-update/>
- New Zealand Ministry of Education (2015c) Innovative Learning Environment (Modern Learning Environment). Retrieved from <http://www.minedu.govt.nz/NZEducation/EducationPolicies/Schools/PropertyToolBox/StateSchools/Design/ModernLearningEnvironment.aspx>
- New Zealand Ministry of Education. (2015d). *Innovative Learning Environments*. Retrieved from <http://mle.education.govt.nz/>
- New Zealand Ministry of Education (2015e). *National Standards*. Retrieved from <http://nzcurriculum.tki.org.nz/National-Standards/Key-information/Questions-and-answers>
- New Zealand Ministry of Education (2015f). *New Zealand education in 2025: lifelong learners in a connected world*. Retrieved from Ministry of Education website: <http://www.education.govt.nz/assets/Documents/Ministry/Initiatives/Lifelonglearners.pdf>
- New Zealand Ministry of Education (2015g). *Programme for students (Pfs) – ALL, ALiM, MST*. Retrieved from <http://nzcurriculum.tki.org.nz/System-of-support-incl.-PLD/School-initiated-supports/Programme-for-Students-PfS>
- New Zealand Ministry of Education. (2015h). *Schools then*. Retrieved from <http://mle.education.govt.nz/>
- Oblinger, D., G. (2006). Space as a change agent. In D. G. Oblinger (Ed.), *Learning Spaces* (pp. 1.1–1.4). EDUCAUSE. Retrieved from <http://www.educause.edu/learningspaces>

- Organisation for Economic Co-operation and Development (2012), *Connected Minds: Technology and Today's Learners*, Educational Research and Innovation, OECD Publishing, Paris. doi: <http://dx.doi.org/10.1787/9789264111011-en>
- Organisation for Economic Co-operation and Development (2013), *Innovative Learning Environments*, Educational Research and Innovation, OECD Publishing, Paris. doi: 10.1787/9789264203488-en
- Organisation for Economic Co-operation and Development (2015), *Students, Computers and Learning: Making the Connection*, PISA, OECD Publishing. Retrieved from <http://dx.doi.org/10.1787/9789264239555-en>
- Old, A. (2015, May 27). A myth for teachers: jobs that don't exist yet [Web log message]. Retrieved from <https://teachingbattleground.wordpress.com>
- O'Neill, J. (2014, October). *Education for Sale - The relentless push of the Privateers*. Paper presented at the PPTA Annual Conference, Wellington. Retrieved from <http://www.r2.co.nz/20140930/john-on.htm>
- O'Reilly, N. (2015, September 9). MLP or just effective pedagogy [Online discussion comment]. Retrieved from <http://www.vln.school.nz/discussion/view/939118>
- Osborne, M. (2013). *Modern Learning Environments* (CORE Education White Paper). Retrieved from CORE Education website: <http://www.core-ed.org/sites/core-ed.org/files/Modern-Learning-Environments-v.1.pdf>
- Osborne, M. (2014). Inviting innovation: leading meaningful change in schools. *Set*, 2, 3-8. Retrieved from http://www.nzcer.org.nz/system/files/set2014_2_003_1.pdf
- Patel, N. (2015, May 12). 9 things true thought leaders always do [Web log message]. Retrieved from <http://www.entrepreneur.com/>
- Partnership for 21st Century Skills. (2009). *21st Century Learning Environments* (White Paper). Retrieved from P21 website: http://www.p21.org/storage/documents/le_white_paper-1.pdf
- Prensky, M. (2005). "Engage me or enrage me" What today's learners demand. *EDUCAUSE Review*, 40(5): 60–65. Retrieved from <http://www.educause.edu/ero/article/%22engage-me-or-enrage-me%22-what-today%27s-learners-demand>

- Prince, R. A., & Rogers, B. (2012, March 16). What is a thought leader? [Web log message]. Retrieved from <http://www.forbes.com/>
- Rogers, C. (1969). *Freedom to Learn*. Columbus, OH: Charles E. Merrill Publishing.
- Royal Society for the Encouragement of Arts, Manufactures and Commerce. (2010, October 14). *Changing Education Paradigms* [Video file]. Retrieved from <http://sirkerrobinson.com/>
- Research Committee on Open Plan Schools. (1977). Report on Open Plan Education in New Zealand Primary Schools. Wellington, New Zealand: Department of Education.
- Riley, B. (2014). *Science, Data and Decisions in New Zealand's Education System* (Ian Axford (New Zealand) Fellowships in Public Policy Report). Wellington, New Zealand: Fulbright New Zealand. Retrieved from <http://www.fulbright.org.nz/publications/2014-riley/>
- Ronfeldt, M., Owens Farmer, S., McQueen, K., & Grissom J.A. (2015). Teacher collaboration in instructional teams and student achievement. *American Educational Research Journal*, 52(3), 475-514. doi: 10.3102/0002831215585562
- Ruano-Borbalan, J. C. (2006). Policy-making to promote personalised learning. In OECD, *Schooling for tomorrow: Personalising education* (pp. 75-97). OECD Publishing. doi: <http://dx.doi.org/10.1787/9789264036604-6-en>
- Sahlberg, P. (2015). *Finnish lessons 2.0: What can the world learn from educational change in Finland?* Teachers College Press.
- Schneider, M. & Stern, E. (2010) The cognitive perspective on learning: ten cornerstone findings. In Dumont, H., D. Istance and F. Benavides(eds.), *The Nature of Learning: Using Research to Inspire Practice*, Educational Research and Innovation (pp. 69-90), OECD Publishing, Paris. doi: <http://dx.doi.org/10.1787/9789264086487-en>
- Schwartz, K. (2015, February 2). What do we really mean when we say 'personalized learning'? [Web log message]. Retrieved from <http://ww2.kqed.org/mindshift/2015/02/02/what-do-we-really-mean-when-we-say-personalized-learning/>
- Shear, L., Gallagher, L., & Patel, D. (2011). *ITL research: Innovative Teaching and Learning Research, 2011 Findings and Implications*. Menlo Park, CA: SRI International. Retrieved from <http://www.itlresearch.com/images/stories/reports/ITL%20Research%202011%20Findings%20and%20Implications%20-%20Final.pdf>

- Shepherd-Wills, N. (2013). *What impact does a modern learning environment have on pedagogical practice and student learning experiences?* Paper written as a part of TeachNZ 2013 sabbatical project. Retrieved from <http://mlenewzealand.weebly.com/professional-readings.html>
- Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International journal of instructional technology and distance learning*, 2(1): 3-10. Retrieved from <http://er.dut.ac.za/handle/123456789/69>
- Silvertongue, L. (2015). Modern learning mistake? *Tall Poppies*. July 2015, 19.
- Stake, R. E. (2000). Case Studies. In N.K. Denzin & Y.S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (2nd ed., pp. 435-454). Thousand Oaks, CA: Sage.
- Strong-Wilson, T. & Ellis, J. (2007). Children and place: Reggio Emilia's Environment as Third Teacher. *Theory into Practice*, 46(1): 40-47. doi: 10.1080/00405840709336547
- Tanner, C. K. (2008). Explaining relationships among student outcomes and the school's physical environment. *Journal of Advanced Academics*, 19(3), 444-471. doi: 10.4219/jaa-2008-812
- Taylor, S. S. (2009). Effects of Studio Space on Teaching and Learning: Preliminary Findings from Two Case Studies. *Innovative Higher Education*, 33(4), 217-228. doi:10.1007/s10755-008-9079-7
- The Cathedral Grammar School. (2015, November 14). Real maths, real desks...really work! [Newspaper advertisement]. Retrieved from The Press.
- Thornburg, D. (2007). *Campfires in Cyberspace: Primordial Metaphors for Learning in the 21st Century*. Retrieved from <http://tcpd.org/Thornburg/Handouts/Campfires.pdf>
- Thought leadership. (2015). In *The Oxford English Dictionary*. Retrieved from <http://www.oxforddictionaries.com/>
- University of Waikato. (2015). *Ethical conduct in human research and related activities regulations*. Retrieved from <http://calendar.waikato.ac.nz/assessment/ethicalConduct.html>
- Turnali, K. (2015, November 1). 3 reasons why thought leadership matters [Web log message]. Retrieved from <http://www.forbes.com/>

- van den Broek, G. S. E. (2012). *Innovative Research-Based Approaches to Learning and Teaching*. (OECD Education Working Papers, No. 79). OECD Publishing, Paris. Retrieved from <http://www.oecd-ilibrary.org/docserver/download/5k97f6x1kn0w.pdf?expires=1433300363&id=id&accname=guest&checksum=825E7B662853CC4A003B288140E4E0D1>
- Villa, R.A., Thousand, J.S., & Nevin, A.I. (2013). *A Guide to Co-Teaching: New Lessons and Strategies to Facilitate Student Learning* (3rd ed.). Thousand Oaks, CA: Corwin Press.
- Voorhees, R. A. (2001). Competency-Based learning models: A necessary future. *New directions for institutional research*, 2001(110), 5-13. doi: 10.1002/ir.7
- Vygotsky, L. (1978). *Mind and Society*. Cambridge, MA: Harvard University Press.
- Wagner, T. (2008). *The global achievement gap: Why even our best schools don't teach the new survival skills our children need--and what we can do about it*. New York, NY: Basic Books.
- Wall, G. (2014a) *Modern Learning Environments: Impact on student engagement and achievement outcomes*. Retrieved from Ministry of Education, Education Counts website: www.educationcounts.edcentre.govt.nz/
- Wall, G. (2014b) *Modern Learning Environments: Open Learning Spaces*. Retrieved from Ministry of Education, Education Counts website: www.educationcounts.edcentre.govt.nz/
- Walters, L. (2015, October 18). Top schools give multi-million dollar classrooms a fail grade. *Sunday Star Times*. Retrieved from <http://www.stuff.co.nz/national/education/73042309/Top-schools-give-multi-million-dollar-classrooms-a-fail-grade?cid=app-android>
- Wells, G. & Claxton, G. (2002). *Learning for Life in the 21st Century*. Oxford, England: Blackwell Publishers Ltd.
- Williams, S. (2013). *Practical Ways that Schools can personalise learning for their students*. Paper written as part of NZEI Primary School Principal's Sabbatical. Retrieved from <http://www.educationalleaders.govt.nz/Leadership-development/Professional-information/Principals-sabbatical-reports/Primary-award-recipients-2013/Williams-Simon>

- Wilson, M. (2015). *Investigating the effectiveness of modern learning environments on improving student learning and achievement*. Paper written as a part of a TeachNZ Secondary School Principal's Sabbatical. Retrieved from <http://www.educationallleaders.govt.nz/Leadership-development/Professional-information/Principals-sabbatical-reports/Secondary-award-recipients-2015/Wilson-Mark>
- Withers, T. (2015, November 18). Workshops and ILP (innovative learning practice) or MLP (modern learning practice [Online forum comment]. Retrieved from <http://www.vln.school.nz/discussion/view/943716>
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of child psychology and psychiatry*, 17(2), 89-100. Retrieved from <http://isites.harvard.edu/fs/docs/icb.topic862383.files/Wood1976.pdf>
- Woolner, P., McCarter, S., Wall, K., & Higgins, S. (2012). Changed learning through changed space: When can a participatory approach to the learning environment challenge preconceptions and alter practice? *Improving Schools*, 15(1), 45-60. doi: 10.1177/1365480211434796

Appendix A

Table A1

Other words provided by respondents to describe MLE

Other words provided by respondents to describe MLE	
Pleasant/ Comfortable (24)	calm, Visual, airy, relaxed, comfortable, mostly not crowded, Peaceful, Relaxed, well maintained, attractive, safe, Tidy, quiet, Comfortable, something for everyone to learn comfortably, looks nicer, sensible students and a nice and caring teacher, Comfortable, Less crowded, quiet, calm, awesome, tidy, harmonious
Engaging/ social (22)	friendly, Community, Fun, Social, Dynamic, Fun, Friendly environment, Friendly, Wider Range Of Potential Friends, Interesting, Social, Fun, Fun, Interesting, fun, friendly, fun to learn in, fun, active, Social, stimulating, interesting learning spaces
Cooperative/ Collaborative (20)	co-operative, collaborative, helpful, Sharing, collaboration, Helpful, including, Helpful, Kind to others, Collaborative, Collaborative, shared, belonging, Helpful, a place to share work, shared spaces, collaborative, shared, supportive, collaborative
Open (20)	Lots of learning space, attached, Contained, free, Open, spacious, Unrestrained, Open, not confined, Spacious, open, freedom of movement, 'Workstations' come to mind, free, big space, Messy with student belongings lying around, as well as insufficient storage space for some resources that could be kept out of sight to maximise usable surface spaces in an area, de-privatisation, transparent, Visible, more place to learn
Student-centric (20)	individual, opportunity, personalised, Well organised students, Independent Learning, accommodate different learning styles, Best learning, Achieving high, Exploratory, Children working at their pace and ability, Children need to be self motivated learners, specialized classes, Empowerment, Listening to kids opinions / suggestions, Encouragement to try, Taking risks, Creative, enabling, The idea of an MLE is to create environments that promote and improve learning for students, Sparks creativity
Modern (12)	Different, unique, unique, Modern challenges, New, modern, Different, modern, new, modern, New, unique design
Fit for Purpose (10)	useful, useful, fitting, Good space to work, Useful, fit for purpose, useful, good time to get work done, Purposeful, puposeful
Access to Resources (8)	devices, bad computers, access to resources, Good Recourses, Accessible Resources, well resourced, Set up for BYOD, Cutting Edge Technology
Flexible/ Responsive (8)	Flexible, alternative spaces, Adaptable, Flexible in teaching method to suit students, responsive, Responsive, Fluent, Adjustable
Structured (7)	well sorted, organised teachers on same page, Organised, Smart system, good structure, easy to organize, Well managed
Noisy/ Distracting (6)	Noisy, distracting, noisy, potentially unstructured, Sometimes: - Noisy and distractive in a way that might not be conducive to a student producing work of a high standard, Potentially noisy!
Connected (4)	Connection, interactive, interactive, interacting
I don't know (3)	not sure, I really don't know, idk
Furniture (1)	couchs

Table A2
Other words provided by respondents to describe MLP

Other words provided by respondents to describe MLP	
Student-centred pedagogies (20)	small groups, student led, Individualised learning, Child-driven learning - self-directed with support, reflective thinking, learners chose how to learn, Motivation to do more, creative, Learners have some discretion over where, what, and when to learn but not completely what to learn (they don't know what they don't know), True MLP (although the idea is not that 'modern') should aim to be as close to an IEP for each child as possible, Learners are given real situations to work with/problem solve, small group foci, learners choose (from appropriate choices) what to learn, learning is tailored to students strengths, needs and interests, learners have agency (age appropriate), student initiated, authentic, agency, organic
Structured (9)	Set timetables, its organised because you always have teachers walking around, Effective planning and organisation is essential, Teachers need to collaborate and be on the same page with routines and organisation, Discipline, soft systems and routines are central to ensuring success, structured, scaffolded, carefully organised systems
Effective (9)	constructive, Easier, quicker, safe, busy, helpful, Productive, Best guidance from teachers, Hard work is appreciated Laziness is not appreciated
Flexible/ Responsive (7)	can work in flexible ways, Responsive, Flexible, Responsive, Flexible, responsive, responsive
Positive/ Fun (6)	Good, Good, Enjoyable, Rememberbal, Friendly teachers, relationships
Focused/Targeted Teaching (6)	focused learning, targeted learning and teaching, focussed, deliberate, deliberate acts of teaching, accelerated progress
Cooperative (6)	cooperative, more peer learning opportunities, Supportive culture, learners teach others not just down to the teacher, shared, supportive
Collaborative Teaching (5)	Co-teaching, Strength based teaching, strength based communities of practice, different teaching approaches, co-teaching
Connected (5)	ubiquitous - learning occurs any place anytime (both learning/ & ICT connectedness), inter-active, connected, ubiquity, connectedness
I don't know (3)	I dont know how to describe it, don't know, not sure
Noisy (1)	Can be noisy

Table A3
Other skills being learned in MLE, as identified by respondents

Other skills being learned in MLE, as identified by respondents	
Social Skills (22)	relationship building, Teamwork, Social skills, Interpersonal skills, students of both year eight and year seven interacting, respecting our pairs, SHOWING THE SCHOOL'S VALUES, miting new people, Cooperating, respect, Socialization, relationship building, getting to know all the teachers and students, Communication, 'trusted' to work in a range of settings and with range of people patience - (working with others), talking as a group, negotiation skills, culture of collaboration, relating to others, participating and contributing, Respect, Value
Learning Skills (15)	Goal setting and achieving, focus, Learning as fun, Self-management, group work, self directed learning, Feedback from different preferences, preparation for High school, self learning, Goal setting, learning how to learn - what do successful learners do, Managing self, thinking, using language symbols and text, learning to learn
Personal Skills (14)	Involvement, individuality, self motivation, Encouraged to be confident, Aiming for high, self starter, proactive, Creativity, self confidence in their autonomy, well-being & belonging to the school as a learner, self confidence/ assertiveness skills, challenge, Avoidance, Patience, Resilience
Organisational Skills (6)	Organisational skills, Choosing your timetable, How to organise yourself, time management, planning skills, time management
I don't know (5)	i dont know, don't know, not sure, I'm not sure, as I only hear things secondhand from my child, I haven't spent much time in the pods looking at the learning, so my answers are unlikely to be reflective of what actually occurs.
Teaching Skills (4)	skilled teaching and well done, Teachers working together, Specialized, Open teaching practice
Digital Skills (2)	going o the computers to work, digital citizenship

Table A4
Selection of student-centred responses, across all participant groups to MLP survey question

Selection of student-centred responses, across all participant groups to MLP survey question: <i>In your own words, what is the purpose of Modern Learning Practice - how the teaching and learning is organised in the 'pods'?</i>
Parents/BoT
<p>The purpose of MLP is to improve teaching practices and better cater for a variety of learning styles and student needs. It aims for better outcomes for students through teaching practices</p> <p>Again, the children are put into groups that are based on learning needs. They can have a different teacher which sometimes can help their learning as not all teachers work the same</p> <p>Flexible learning. Allowing students to learn in environments, suitable for the individual student. To allow collaborative learning. A child centred learning environment.</p> <p>Children are able to personalise their learning therefore are more engaged. Its collaborative with the class/ teacher.</p> <p>To engage children of all learning abilities, to develop their learning skills and prepare them for their future careers, to develop team building</p> <p>personalised learning plan for each child according to their ability not age or level</p>
School Leaders
<p>The purpose is to improve outcomes for learners.</p> <p>To use the learning environment (including physical, virtual and human resources) in the best possible way to maximise the learning outcomes and ensure that broad and deep learning occurs.</p> <p>Team of teachers creating quality learning program's, combining wisdom to address kids needs, kids having more choice about when and who in relation to both tutoring and collaborating.</p>
Students
<p>Learning in pods is better than traditional classrooms because the students among us who need access to extra resources can get those easily, you can see different points of view on work you did, you can easily close the sliding door to keep a class to itself, interact with other classes while working and can also work with a wider range of learning abilities</p> <p>To keep kids organised into groups of classrooms and to have a deeper focus on areas that kids need to improve in.</p> <p>So the teachers know how we learn and what we can do</p> <p>So you can work with people that have close to the same ability as you.</p> <p>so kids dont struggle ith their learning</p> <p>to encourage collaborative learning</p> <p>A lot more self directed learning</p> <p>to let have more chose to were they work</p> <p>to encorage students to learn in there own style and to introduce new strategies and ideas making learnig easier.</p> <p>To help kids learn in a environment that is potentially fun and keeps kids from getting side tracked. aim high</p> <p>its supposed to be more modern and more online so that its more engaging</p>
Support Staff
<p>To allow choice and flexibility with self directed learning.</p> <p>Teachers and students have the flexibility to adapt learning environment and teaching methods to suit the needs of learners.</p>

Teachers

To enable students to deepen their learning experiences and become critical creative thinkers.

Working together to learn and teach.

The purpose of Modern learning practice is to improve student engagement through improved teaching practices

Applying Deep Learning pedagogies in learning opportunities for all students.

Students can do their learning in different spaces/areas - they can have choice.

Children direct their own learning to a certain degree.

MLP is learning that is flexible, self directed and managed.

Opportunities for students to experience a variety of teaching and learning styles, and choose/find the one that works best for them.

Learning to learn. Becoming a citizen of the world and knowing how to function and participate within it successfully.

To target, more effectively and efficiently learners needs across a large number of students.

To respond to the needs of all students within the POD.

Students can expand their learning relationships with a larger range of teachers and peers (could be at a different year level).

Encourages student directed learning.

Table A5
Other words provided by respondents to describe Managing Self

Other words provided by respondents to describe Managing Self	
Purposeful/Focused/On Task (13)	Purposeful, self-discipline, focused, how to get back on track, task orientation, non-distractable/ focussed, On task, Time management, Sticking to the task you have been given, not going of task, focused, goal orientated, Good Time-Management
Personal qualities (11)	motivation, Creative, Positive attitude, Sincere, Self indulged, Positive, Confident, inquisitive, Confidence, capable, Decision making
Preparation/Organisation (7)	organised, prepared, Organised, Planning ahead, Getting organised, Organised, organised
Awareness of self/others (7)	considerate, Self Aware, Reflective, Being a good citizen, awareness of others, not getting into trouble, respect
Social Skills (7)	negotiation skills, able to make appropriate choices as a learner, Interdependent, Collaborative, Communication, know when to lead/follow, social competence
Perseverance/Resilience (6)	skills for managing situations that do not go as planned, coping with change, strategies for challenges, Perseverance, Not giving up, persistent
Taking responsibility (5)	Responsible, Responsible, steaping up, taking responsibility, accountable
Showing Initiative (5)	able to seek assistance when needed, Being confident enough to voice a concern at any age, Initiative, resourceful, Resourceful
Using Equipment Appropriately (3)	Appropriate use of BYOD, Using equipment appropriately, Being equipped
Managing Emotions (3)	self regulation, managing emotions in a range of situations eg competitive etc, Balanced
Independence (3)	induavidual, doing it yourself, self independive
I don't know (3)	don't know, not sure, dont know
Risk taking (2)	risk taker, Risk taking
Identifying learner's needs (1)	identifying needs

Appendix B

Appendix B1

School leader interview schedule.

Each interview included 2-3 questions that specifically referred to each teacher's survey responses: In the survey you indicated... is there any more that you would like to add about how you define MLE/MLP/Managing Self?

1. In your own words, what is your vision (or the school's vision) of the shift towards modern learning environments and practice?
2. Where/who/how have you been influenced in forming your vision?
(Possible question here to how their vision may have changed over the years)
3. As a result of this (quote if necessary) - what do you think it means to be successful - as a teacher and a learner - in a modern learning environment?
4. How well do you feel your vision and perceptions of MLE and MLP integrate with that of the wider community?
5. How do the students and teachers know that they are participating in MLP as you view it?
6. What changes in teaching and learning have already occurred in the school as a result of the expected shift?
7. How engaged do you feel the staff, students & wider community are with the expected shift in teaching and learning practices in the school?
8. What challenges do you think are presented in the implementation of the pedagogical shift towards Modern learning Practice?
9. How is 'Managing Self' measured?
10. How do you know that teachers are assisting students to achieve this competency and how do you know that students are actually 'managing self'?
11. In the context of MLE and MLP and the associated 21st Century skills, what are your thoughts about achievement in the 21st Century? Has the definition of achievement changed? Should we be measuring it differently?
12. Do you have any other questions about MLE or MLP?

13. (Additional question) How do you view the Ministry's migration from the term 'Modern' Learning Environments to 'Innovative' Learning Environments?

Appendix B2

Teacher interview schedule.

Each interview included 2-3 questions that specifically referred to each teacher's survey responses: In the survey you indicated... is there any more that you would like to add about how you define MLE/MLP/Managing Self?

1. On the whole, how engaged do you feel with the process of change being undertaken at the school?
2. How involved or participatory have you been with the shift or change at the school?
3. In your own words, what is your vision of the shift towards modern learning environments and practice?
4. Where/who/how have you been influenced in forming your vision?
5. How does your vision align with that of the leadership?
6. As a result of this (quote if necessary) - what do you think it means to be successful - as a teacher and a learner - in a modern learning environment at this school?
7. How well do you feel the school's vision and perceptions of MLE and MLP integrate with that of the wider community?
8. How engaged do you feel the staff, students & wider community are with the expected shift in teaching and learning practices in the school?
9. What changes in your teaching have already occurred in your classroom as a result of the expected shift?
10. How much do you incorporate space in your planning?
11. What other changes are you aware of that have occurred across the school?
12. How do you, as a teacher (and your students), know that you are participating in MLP as the leadership view it?
13. What challenges do you think may be presented in the implementation of the pedagogical shift towards Modern learning Practice?
14. How do you facilitate the key competency 'Managing Self' in your classroom?

15. How is this measured? How do you know that you are assisting students to achieve this competency and how do you know that students are actually 'managing self'?
16. What, if any, changes have you identified in how success is measured since the implementation of Modern Learning Practice?
17. In the context of MLE and MLP and the associated 21st Century skills, what are your thoughts about achievement in the 21st Century? Has the definition of achievement changed? Should we be measuring it differently?
18. Do you have any other questions about MLE, or MLP?
19. (Additional question) How do you view the Ministry's migration from the term 'Modern' Learning Environments to 'Innovative' Learning Environments?

Appendix B3**Student focus group interview schedule.**

1. In your own words, please explain: Why do you think we have the pods - what is their purpose?
2. How are they used for that purpose in your pod?
3. What improvements, if any, would you make to the learning spaces/the pods?
4. The space is different - what about the teaching and learning is different?
5. How the teaching strategies used by your teachers different than in single-cell classrooms?
6. How are the skills that you learn different than in single-cell classrooms?
7. The pods are often called 'Modern Learning Environments' – What do you think makes teaching and learning different in this day and age?
8. How do the teachers in the pod space collaborate/ work together?
9. How do you and your teachers use the space in your learning?
10. In what ways are you able to make choices about your learning in your class?
11. One of the key competencies in the NZC is called 'Managing Self,' this is similar to one of the school's values, 'Self-discipline.' How do you - and others - know that you are managing self?
12. How do your teachers let you know that you are managing self?
13. How does your ability to self-manage impact on your achievement?
14. If teaching and learning are different in this day and age (Modern Learning), how has 'doing well at school' changed?